Good afternoon and thanks for joining us; I am Judy Simpson. Today on the program we are going to travel half a world away with an educator from University of Vermont Extension. It's always a pleasure to welcome Ann Hazelrigg. She's been with us before to help us understand pests and diseases that infect our gardens. She's an Extension instructor and Director of the UVM Plant Diagnostic Clinic. It's great to see you again.

Ann.: Nice to see you.

Judy.: You've been to Nepal before?

Ann.: Yes.

Judy.: But you recently returned; tell us what you did there and why you were there?

Ann.: I've gone over there five times actually, and I go with an organization called Winrock International. It's a non-profit agency that works in developing countries with farmers for income generation. I went over to work on pest management on IPM for vegetable farmers.

Judy.: Let's start talking about Nepal as a country. We have some pictures I want to show folks.

Ann.: It really is half way around the world; that takes a long time to get there. It's in South East Asia. This is a geography lesson because I didn't always know a long time ago where was. It's in between India and China. It took me about 30 hours to get there. Nepal is a small country, it's about 500 miles long, 125 miles wide and it goes from the Indian border up to Mount Everest so you have all different microclimates in the country.

Judy.: What was your assignment?

Ann.: My assignment was working mainly with female farmers on integrated pest management which is just using a variety of tools to control pests and diseases with the last resort being a pesticide. What I covered--this is a slide of women using a planting bed. I covered IPM basically from planting through harvesting crops. This is a picture of a harvested bitter gourd that had a really bad fruit fly problem and they're losing lots of fruit from this pest. So I covered...
different ways to manage insects and diseases throughout the course of the season without using pesticides.

Judy.: Talk a little bit about the integrated pest management. What you actually use instead of pesticides?

Ann.: A lot of very practical things. All of our gardeners in Vermont use IPM probably. It's a matter of using staking for tomatoes to improve air circulation so you minimize foliar diseases. It's a matter of improving your soil health through use of compost improving biological activity. Improving your soils. It's a matter of using good sanitation. This was a good tool but I think help to the farmers. They have these infested fruit out in their fields and they're just leaving it there. And I said every fruit you leave there with that little maggot up in the top will go ahead and complete its life cycle and infest your next fruit so really clean it up. I really tried to stress doing it on a region wide scale and that will help pull their neighboring farmers too.

Judy.: So you needed to do some kind of assessment I would assume in the fields?

Ann.: Yes I went to three different districts in Nepal. One was on the Indian border and the other two were up in the hills and I'd love for being in the hills. The first thing we would do was go out in the fields and this was all the farmers primarily women because the women are the farmers. They have little small diverse vegetable farms right outside their home because they have to take care of their children too. We go out to the field they rode their bikes we'd walk around their fields look at their farms. They were very very small but everybody wants to June to come see their fields. It was fun to see the fields see their homes. A lot of them more terraced like this so it was a lot of up and down walking. We would go out and see what the problems were in the field and look at things. It helped me get an idea about what I would talk about in the next few days because each district I stayed for three or four days. I love doing this because it's the ultimate Extension experience. You have to assess what's in the field and then come back and teach about it and you have to think on your feet and you're always dealing with power shortages and outages so you're always winging it which is what I like.

Judy.: When you're not there who do these people turn to to get advice about why isn't this crop growing or why should we pick up the fruit that's running in the fields?

Ann.: It's tough in Nepal because they really do not have an extension system. That would be wonderful if they could come up with an extension system but it's just not going to happen. Right now what they have are local service providers they are people that run businesses selling chemicals or fertilizers so one of the good things about this training is we included local service providers in our training so that they look to help with some of these problems in the future. That sort of creates a little extension service for the farmers and somebody they can go back to.

Judy.: Plus now the farmers know this and they can pass the information on.

Ann.: Right. You work with one group of farmers but they have access to all their neighbors and other farmers and these local service providers have access to a lot more farmers so it amplifies the work you're doing in this one district.
Judy.: You mentioned that the farms are pretty small can you give me some idea on what we're talking about acreage wise or plot wise?

Ann.: They grow a little bit of everything tomatoes cucumbers but the bigger gourds and bottle gourds are some of their main crops. There may be a third of an acre or 1/2 acre. They've started doing a lot of work with hoop houses made with bamboo. Very small diverse farms almost all of them have animals so it's a nice system where they generate manure. A lot of them are terraced. This is a farm that has animals these are the terraces. So very small but it does represent a fair amount of income for these families.

Judy.: I was going to ask is this just for crops they use themselves or are there things they are trying to sell to make money?

Ann.: They are also selling. They're using them for themselves but they have a big market that they all go to and they're selling. If they can get a lot of these farmers together it's worth it for these trucks to come in and take some of this back to Katmandu or larger cities in Nepal.

Judy.: Once you visited some of these farm fields what’s next?

Ann.: After visiting then I sort of knew what their pests were. I did a fair amount of homework before I went because and I spoke a lot with my interpreter who found out what were the main problems in the field. We would then come back to the classroom. I would go over some of these main pests. We did have the farmers break into small groups and come up with their top three crops and top three problems. So we can concentrate a little bit. This is some of the women farmers they were just beautiful always in these colorful Saris. We would have them come up with these pests and diseases. We would put them up on the whiteboard then choose what we're going to talk about for the next three days and address these. After that I would then go through IPM basics they did do some PowerPoint lectures. I kept things very basic. A lot of times the power went out so I would have to describe things.

Judy.: What about the language barrier was a problem?

Ann.: Oh yes, I don't speak any Nepal. I can say hi my name is Ann and your country is very beautiful. I had an interpreter with me the whole time and he was a wonderful person to work with. He knew a lot about agriculture. All my speaking with the farmers had to go through him. You can't get as much information across so it takes a little longer. It was fun to work with my interpreter.

Judy.: So part of what you do to is show these farmers what the bugs look like.

Ann.: Exactly. I come over with power points I knew what their problems were so I went over life cycles and some things to manage some of these pests.

Judy.: You also talked about different things that they could do for their crops too.

Ann.: Yes we talked about soil improvement, rotation, all those basic things about IPM. In the second day of the training what we usually did was have farmers bring in problems that they'd seen on their specific farms. We went through those look Saddam talked about those problems and then the rest of the second day we just talked about grafting of tomatoes. I think this is an
excellent tool for Nepal farmers. I had forgotten I handed out hand lenses because I said one of the most important things about IPM is you need to catch the pest early so you can manage it. But so they were having fun looking at insects very closely with their hand lens. The rest of the time on the second day I talked about tomato grafting. But a great tool for Nepal farmers because they have a soil born disease. A bacterial wilt that right when their tomatoes are ripening they just wilt and die. They can use these resistant root stocks or native root stocks to give resistance to this disease. I have through my interpreter I had the farmers grow seedlings for me 20 to 25 days before I showed up. Then what you do is take the rootstock cut it at an angle. And then you cut the top part of the tomato plant at the same angle and then you clip them together. It's as easy as that and you have this resistant rootstock with the top variety that you want to grow for the fruit and things like that. The farmers were very worried about doing this.

Judy.: I bet, chopping up the little seedlings.

Ann.: They were and they were confused because when we did the grafting we put the tops back on the same seedling but I said know you can use your native root stocks or you can grow your own root stocks just for resistance and put your tops on. They were reluctant but for you with a so thrilled when they were successful doing it. Every farmer with two a few different grafts and then they would bring it up to me for one of the local service providers to make sure they had done it correctly and they were so proud and they want to take them home with them that evening. I said no they won't live because they need to go into a mixed bed next but they said no I want to show my family what I did today.

Judy.: That's amazing.

Ann.: Yes it was so heartening. It was wonderful to see that.

Judy.: So what impressions did you leave with regarding their farming techniques?

Ann.: I think they were very excited about this tomato grafting using that as a tool and I may go back in the fall and work more with them on taking it from the graft all the way to the mixed bed to the field. These are some of the farmers that were grafting. These are some of the women very excited about what they have done. I think they really understood after I went there about the importance of soil health and trying to improve the biological activity because they were very eager. They have all the manure and all the things they need to make compost that they really weren't doing it so I think that's something they can work on over the next six months. Hopefully I'll go back and see their improvements with that. And then the sanitation, cleaning up. As soon as they see infested fruit out in their field destroy it and if everyone does that on a region-wide basis they may be able to decrease some of those pests.

Judy.: There will be the outbreaks.

Ann.: Right.

Judy.: You mentioned most of these farmers are women where are the men?

Ann.: A lot of men a big problem in Nepal right now is the men have gone to the Gulf States to try to earn money. So their away from the family sending money back from Saudi Arabia. A lot
of men have small businesses or other jobs off the farm but I think they found over time it's better to get the money in the hands of the women because they use it for family where is the men may use it for other things.

Judy.: We're looking at a couple of other pictures.

Ann.: There was a strike in the country they're trying to work out a lot of political problems right now in Nepal we had a day hike up but I got to go out on the health and safari. This is my morning ride coming to pick me up. It's 6:00 AM and it was just wonderful. It was beautiful out and it gets very hot but I went on an elephant ride to look for tigers rhinoceros. We didn't see any tigers but this was a tiger print that we saw. The driver said this is fresh but unfortunately we didn't see any that day. That was a fun thing to do in the middle. This is my interpreter on the right in the plaid shirt his name was Omar. We are up in a village up in the hills it was cold that day so that this is the cooking fire we're all sort of standing around it. This is a little restaurant up and the hills where we stopped. It was beautiful there because it was wheat harvest during the time I was there. This is a woman that was as cutting the wheat and she's thrashing it trying to get the seed out of it. Always dressed in these beautiful saris and clothing. This is a man harvesting his wheat. Everybody we stopped and talked to were so friendly. This was a picture of a woman I can't see she's cutting wood or weak I'm not sure but if its wood is probably for fuel. I love this picture because the women are the workhorses of this country and she's just toiling and the little girl is just skipping behind are and I felt like she doesn't know. She still is skipping.

Judy.: Right. Did you feel safe?

Ann.: Yes; I always feel safe in Nepal and I'm always traveling with an interpreter so somebody who can speak the language. We had a driver so I flew to the western part of Nepal and then we had a driver who took us into little villages. I'm always so appreciative of the home of Winrock we have nice has safe cars and safe drivers because it's a little crazy driving.

Judy.: I would imagine you have to know what you're doing and be aware.

Ann.: We were on big winding roads and at one point I didn't want to look out my window because there's a big long drop.

Judy.: Ann, thanks so much for coming in and talking about your work; it's always fascinating.

Ann.: You're welcome, thank you.

Judy.: That's our program for today; I'm Judy Simpson. We will see you again next time on Across the Fence.

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