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Stephen Kells

Redefining how the Cooperative Extension Service benefits consumers and the pest management industry is this university educator's passion.

From a young age Stephen Kells' fascination with insects has led to him explore, question and investigate the behavior of the creepy, crawly and flying creatures that share our world.

From an early encounter with earwigs that was both fascinating and frightening to the proclamation to his grade school class that he intended to find a way to control the worldwide scourge of locusts for a class project, Kells has immersed himself in the study of insects.

THE EARLY YEARS

The oldest child of a Canadian Air Force search and rescue pilot and later college professor, Kells was born in Prince Edward Island, lived in Calgary and spent most of his youth in Ontario an hour north of Toronto.

Well-traveled at a young age, Kells built his first laboratory in a small crawlspace at home in pursuit of his aforementioned goal of finding a solution to control locusts, the swarming phase of certain species of grasshoppers. His first effort – vinegar and baking soda – didn't work but revealed an innate sense of curiosity that Kells has carried with him throughout his career.

Growing up in rural Ontario exposed Kells to the farming life and while he remained fascinated by insects he eventually entered the

University of Guelph to study dairy science. "I soon came to the realization that dairy science was a limited field in terms of career options and was simply all about the cow," recalls Kells.

While deciding on a major that would not limit his career options or his curious nature, Kells took a summer job at the university's horticultural research station working on crop protection research. One of Kells' duties was to take treated crop samples to the university's residue lab for further testing.

As part the testing process, the lab sought volunteers to be tested for pesticide exposure through the monitoring of weekly blood samples. Kells became a volunteer but it had nothing to do with the greater good of science; it had all to do with Alice.

Alice, a fellow co-ed, processed the analysis of the blood samples and while neither of them would realize it then, she later would become Kells' bride and the mother of their three children.

Kells likes to joke that Alice "treated my blood sample as a bio-hazard" but a union was hatched and both went on to complete their masters degrees at the university and work in laboratories that were side-by-side.

During this time Kells fell for his second love – entomology. A class in insect taxonomy propelled that interest and saw Kells hand in a





Entomologist Stephen Kells has always been fascinated by insects, including bed bugs.



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project where he collected and mounted more than 2,000 insects. “I wanted to make sure I received an A in the class,” quips Kells.

After graduating with a bachelor’s degree in agriculture and environmental biology and a master’s degree in entomology, Kells wanted to further his entomological studies. Following a conversation with an advisor as to what field in entomology offered the most career options, he decided that urban entomology was the route and Purdue University was the place.

THE KELLS FILE

NAME: Dr. Stephen Kells

TITLE: Associate Professor and Extension Entomologist

COMPANY: University of Minnesota

LOCATION: St. Paul, Minn.

FAMILY: Wife, Alice; Children, Emily, 11, Jason, 15, and Ryan, 17

EDUCATION: Ph.D., entomology, Purdue University; Master’s Degree, entomology, University of Guelph; Bachelor of Science, environmental biology, University of Guelph

INDUSTRY EXPERIENCE/ COMMUNITY AFFILIATIONS:

Technical Director, Abell Pest Control; frequent speaker at industry conferences including North American Bed Bug Summit, Entomological Society of America Annual Conference and NPMA PestWorld; research published in Journal of Economic Entomology, Journal of Insect Physiology and Environmental Entomology

EXCELLENT TRAINING GROUND

At Purdue, Kells studied under longtime researcher Dr. Gary Bennett and it was Kells’ energetic and outgoing personality that Bennett remembers. “We first met Steve at an Entomological Society of America meeting and his energy and enthusiasm stood out,” says Bennett. “We were very happy to have him here for his doctorate and post-doctorate work. He hit the ground running as soon as he arrived on campus and never stopped.”

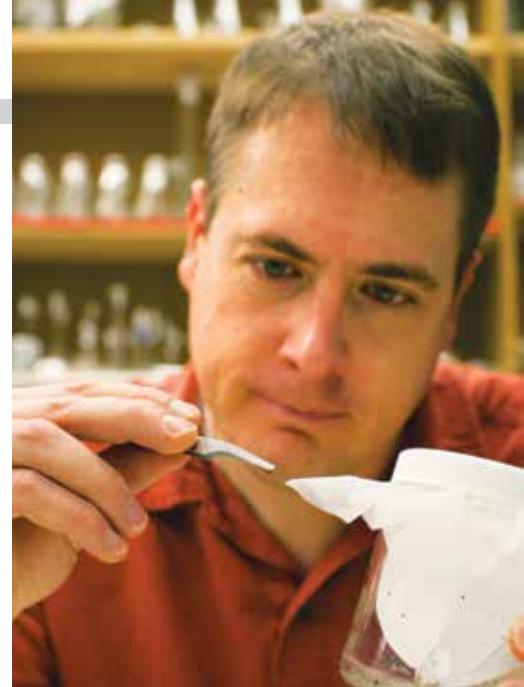
During his time at Purdue Kells was actively involved in planning the university’s annual pest management conference and managing its correspondence courses, while not neglecting his studies.

“Steve was the ideal student,” says Bennett. “You didn’t have to always look over his shoulder and it was evident he had a bright future because of his enthusiasm and love for the subject.”

Following graduation Kells took a different career turn, choosing not to remain in the research world and taking a position with Abell Pest Control in Ontario. Kells served as Abell’s technical director from 1999 to 2004, gaining recognition for his work in developing unique pest management solutions for the company’s diverse client base.

An itch to return to academia and research led Kells to the University of Minnesota in 2004 as an assistant professor and extension entomologist. In Minnesota Kells has found his stride and is producing valuable work on bed bugs and stored product pests, as well as helping reshape the role extension services play in today’s pest management industry (see sidebar, page 31).

PCT visited with Kells for his



Researchers like Stephen Kells are working overtime to combat the growing problem of bed bugs.

thoughts on the important role extension plays in the industry.

PCT: You have worked for a pest management company and in several university settings. How do they differ and how are they similar?

KELLS: They are similar in that you are working with passionate people that want to solve people’s pest problems. It was a huge learning experience entering the industry out of college and I went there with plenty of questions. My time with Abell was a very positive experience and gave me real-world, hands-on knowledge. I credit a great deal of my success today to the time spent in the industry. It helps me understand what is needed by PMPs in the field and where to focus our research and extension efforts.

PCT: What drives you as an educator?

KELLS: It is the excitement of the work and the people you get to work with. Learning new things and being able to talk with people about their experiences is gratifying. When I was working at Abell discovery came on a shorter cycle

The New Era of Extension

The role extension services play in today's structural pest management industry is changing and the blueprint Dr. Stephen Kells is drawing up through his work at the University of Minnesota is leading the way.

Extension services were born out of the agriculture industry where extension agents travelled from town-to-town and farm-to-farm giving "tailgate" talks on better growing, fertilization and pest management practices. Over the past two decades extension offices have added urban specialists to meet the growing demand for information on topics ranging from structural pests and public health to food safety. "Extension services of yesterday and today share the same goal of taking research from the laboratory and packaging into practical education for the public to use," says Kells. "The difference is in the delivery methods used and the emphasis on the urban market."

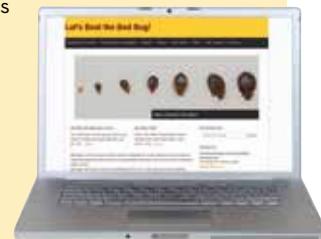
In today's time-crunched, technology-driven society extension fact sheets are significantly shorter than in the past and are designed to be accessed by consumers and professionals 24/7 from computers, laptops and mobile devices. Early on in Kells' tenure at Minnesota his office saw a significant uptick in calls about bed bugs with consumers saying they could not find reliable information on how to prevent or eliminate these annoying pests. "We learned that the public wanted the information presented in a shorter, 'show-me-the-highlights'



Gary Bennett

format and they wanted it available on the Internet," says Kells. The website Kells' extension team developed - www.bedbugs.umn.edu - offers homeowners and tenants, property managers, students and travelers a wealth of bed bug resources from prevention tips to what to look for when hiring a pest management professional. The site also features videos and social media elements including Facebook and Twitter. "The changes going on with extension services are ideal for people like Steve who are program builders," says Dr. Gary Bennett of Purdue University. "He has set up a program that serves both consumers and industry."

When asked where the future of extension services is headed, Kells looks at converting the written word into videos and webinars as ways to get the message out. "Reshaping the way extension services work with consumers is exciting. But the most rewarding aspect is still helping people solve their pest problems," he says. "When someone brings in what they think is a bed bug and you tell them it is a carpet beetle, the look of relief on their face is what it is all about."



and I always wanted the time to explore a question or problem in more depth. Being an educator gives you that time to ask more questions and seek more input. I look forward to coming in every morning to find the answers.

PCT: What role will research play going forward for the industry?

KELLS: Research will better explain pest behavior patterns to help the industry identify improved control methods. There is a lot of forward thinking going on in today's research community and the need for knowledge from industry, consumers and regulators has increased. The research community remains a big part of the process.

PCT: What is the biggest issue facing urban pest research today?

KELLS: It is the struggle for funding. Funding that has traditionally come through EPA and USDA is not always available to study urban pests and is directed at agriculture pests or vector research. It has been a challenge to identify sustainable funding to look at the insect itself. A good example of where research fell behind and resulted in a negative outcome is bed bugs. Had there been ongoing research the industry could have acted quicker to develop control methods and not wait until the resurgence was full blown and bed bugs were showing up everywhere in major retail establishments and hotels.

PCT: What is your favorite insect to work with in a research setting?

KELLS: It would have to be bed bugs because there is so much unknown about these pests. We are currently researching their behavior and biology to learn how they move through society which is fascinating. They're intriguing insects.

PCT: How do you define leadership?

KELLS: Leadership is the ability to move society or industry to try new things, and be able to understand the underlying problem or issue while being sympathetic when it cannot be changed. It is being able to work with others to reach the best possible outcome for all. 