National School IPM 2020 Steering Committee Conference Call Notes for November 16th

The Steering Committee meets via conference call on the third Friday of each month at 1:30PM CST. The following notes are for November 16th, 2018.

Roll
- Julian Cooper, IPM Institute
- Madeline Zastrow, IPM Institute
- Scott Broaddus, Bayer
- Alexander Ko, Bayer
- Tom Green, IPM Institute
- Shaku Nair, University of Arizona
- Eric Denemark, California Department of Pesticide Regulation
- Lucy Li, University of Arizona
- Joe LaForest, Southern IPM Center
- Lynn Braband, New York State Community IPM Cornell
- Dawn Gouge, University of Arizona
- Joellen Lampman, New York State Community IPM and Cornell
- Seth Dunlap, Arkansas Agriculture Department
- Allie Allen, National Pest Management Association
- Matt Bauer, Western IPM Center

Agenda
1. Guest Speaker: Scott Broaddus and Alexander Ko from Bayer
2. Regional updates (group)
3. Agenda items for next call (group)

1. Presentation from Bayer on Rodent Remote Sensing Technology
   - Four years ago, in conjunction with NPMA, brought key leaders in PMP industry together for a workshop to highlight future of the industry
     ▪ Changing regulations
     ▪ Technology impact on pest control business
     ▪ Work force evolving and changing
   - Created corporate enterprise in Bayer to focus on IoT (Internet of Things) remote monitoring
   - Rodents top of the list when communicating with customers
     ▪ Public health threat
   - Remote monitoring not only about the device
     ▪ How we refine and return to IPM
     ▪ How the customer will benefit
     ▪ Predictive and preventive
     ▪ Actions only taken when pests are likely to exceed acceptable levels
   - Why did we focus on IoT for rodents?
• Major focus on food safety
• Very relevant to other environments, i.e., schools

• Problem with current monitoring
  ▪ Timeliness
  ▪ What happens between day 1 and day 30 between technicians visit the account and inspect monitors?
  ▪ Only getting snapshots of pest activity

• IoT technology offers a solution to this problem
  ▪ When “things” start to think
  ▪ “embedded internet”
  ▪ “pervasive computing”
  ▪ The natural evolution of machine to machine communication
  ▪ Distributed sensor network connects people and systems
    ▪ Shares sensor data with each other
    ▪ Sensors working together to share information
    ▪ Can act without human intervention

• Rodent monitoring problem in particular – technicians spend about 75% of time checking traps, most end up being empty
  ▪ A global view allows a PMP to get a holistic view of pest environment
  ▪ IoT also allows a granular view into the pest’s world
    ▪ Identify pest-conducive conditions
  ▪ Spatial visibility
    ▪ IoT allows to view traps in spatial relation to one another
    ▪ For example, how is trap 15 related to trap 1?
  ▪ Temporal visibility
    ▪ For example, captures at a location at noon – employees have been propping doors open at that time every day
  ▪ Intelligently respond to pest environment

• Simple View of IoT solution
  ▪ Things – Insights – Actions

• Bayer Remote Monitoring System
  ▪ How can we work smart, not harder?
  ▪ Mouse enters – radio signal sent – gateway passes info to the cloud – alert sent to user – alert received – respond
  ▪ Rodent Sensors Network
    ▪ Signal is different from Wi-Fi
    ▪ Long-reaching signal, 3-mile radius
    ▪ Penetrates concrete and steel
  ▪ Provides 24/7 monitoring and real-time capture notification alerts
  ▪ Provides daily status reports, “heartbeat” messages
- Provides up-to-the-minute trending
- Gateway can scale to 1,000+ sensors
- Battery powered +/− 4 years
- Dust and water resistant (IP54)

- Power of insights and actions
  - Transforming insights into actionable results

- Value creation through strategic use patterns
  - Costly service locations
  - Restricted access
  - Service escalation
  - Difficult access
  - Risky situations
  - Sensitive areas

- Questions/comments:
  - Tom Green: I’ve encountered traps many times while evaluating facilities and found an entire ecosystem in the traps with rodent carcass and other organisms
  - Julian Cooper: What does it cost to set up a moderate monitoring system?
    - Most business is to service providers
    - Couple hundred dollars/month for a 20-sensor system
  - Julian Cooper: How many sensors are required in a multi-story school with 2,500 students?
    - Depends on where you want to monitor more heavily
    - Strategic approach: Place in areas only of higher-risk because of certain activities or conducive conditions
  - Eric Denemark: Any plans to put this technology in models other than the Tin Cat? Exterior bait stations?
    - Yes
    - Can retro-fit sensor on T-Rex snap traps and multi-catches
    - Mechanical device
    - Also looking into sensors for insect traps
  - Lynn Braband: There are systems for box traps for nuisance wildlife that indicate a capture.
    - Wildlife traps are required to be checked every day by state agencies
  - Tom Green: Where are you at with marketing? Are there national companies that have the system available?
    - We’ve been on the market for a little over a year
    - PestWorld October 2017 launched
    - 55–60 systems in the field
    - Biggest challenge: disruptive because it requires you to change business model and how you service
    - Not in any schools yet
  - Julian Cooper: Technology sounds easy to install when it can be quite complex in reality
- Can be super complex because of design of facility, etc.
- Customer support and installation specialists will inspect facility before installation
- Unique part is that it operates independently from existing network at facility
- Installation done through app – intuitive

Dawn Gouge: Can you explain reasoning behind wildlife and remote observations?
- Lynn Braband: state agencies are uncomfortable that there isn’t a body there checking the trap, concerned with treatment of the animal
  - 24-hour maximum trap check regulation

2. Regional Updates
   - Western region
     - No updates currently
   - Southern region
     - Joe LaForest: Southern IPM Center grants submitted
   - Northeast region
     - Lynn Braband: submitted grant proposal to NE IPM Center to reorganize and update Best Practices on NE IPM Center website and WG website
   - Northcentral region
     - Julian Cooper: submitted School IPM WG grant to NC IPM Center

3. Agenda items for next call (group)
Send suggested agenda items for next month to jcooper@ipminstitute.org! **Next call on December 21st.**

The coordination of the National School IPM Steering Committee is supported by funding of the USDA North Central IPM Center. The next conference call will take place on **Friday, December 21st**. Future calls will continue to fall on the third Friday of each month at **1:30 PM Central time**.