What **myFields** Can Do for You

Dr. Brian McCornack, Associate Professor  
mccornac@ksu.edu  
Department of Entomology  
office: 785-532-4729  
cell: 785-477-0066  
Twitter: @bmccornack  
Facebook: fb.com/kansasbugs

Dr. Wendy Johnson, Extension Associate  
wendyann@ksu.edu  
Department of Entomology  
cell: 785-236-1027

What's here?  
1) Summary of iWheat pilot project  
2) Data collected from iWheat project  
3) Transition to MyFields  
4) What you can expect from MyFields in 2015 and beyond

For more, visit http://myfields.info/features
Summary of the iWheat.org pilot project

The iWheat project was a regional effort funded by the USDA that works to facilitate a long-term, area-wide management program for winter wheat in the Southern Great Plains. A primary objective of this project was to streamline access to science-based management resources for wheat by housing them under one website (iWheat.org). The iWheat site serves as a free, mobile-device friendly, decision support system for wheat stakeholders. Registered users can access the following modules:

- **Arthropod Diagnostic Key:** An arthropod pest key is available and interfaces with other tools by linking pest to the variety selector to show cultivars with available resistance and relevant factsheets for more information.
- **Pest Sampler:** Pest sampling plans for greenbug and wheat stem sawfly and their associated algorithms are coded into the sampler module.
- **Proposed Mapping Features:** As user data is collected, regional pest maps can be created to show current pest populations detected in wheat fields.
- **Variety Support System:** The system currently lists 2,050 varieties which are searchable by state, agronomic traits, yield performance, pest resistances, etc.
- **Dynamic Field History:** Users create fields by designating field location and size.
- **Non-registered and registered users get access to Extension materials and resources,** including guides and videos.

iPhone screenshots of iwheat.org modules for the Arthropod Diagnostic Key (A), the Pest Sampler (B), and proposed mapping features (C).
What we learned from site use in 2014?

Quick site stats for 2014 (Google Analytics):
• 32,796 page views
• 6,664 unique visitors
• average pages visit per session (a session is >1 page visits) = 3.5
• average session duration = 3.5 min

How are people finding the site?
• browser search = 4,895
• direct search for iWheat = 2,987
• referral = 1,471
• social (tweets) = 48

Where in KS are people looking?

What are they looking at on the site?
Top pages visited:
1. Variety Support System
2. Wheat Management Guide
3. Arthropod Diagnostic Key
   • Pale Western Cutworm
   • Russian Wheat Aphid
   • Army Cutworm

Other outcomes from this project:
• Exploring online certification process with Crop Improvement Associations (KS, NE, OK, and CO)
• Collaboration with Bugwood.org to create real-time maps
• Funds to support new tools/modules: general reporting, planting wizard, and biocontrol estimator
Evaluating Delivery of Extension Resources and Movement Towards Apps

What was learned from stakeholders in 2014?

A) Summary of crop management information survey (84 crop school participants):
   • Where are they getting their info?
     – 46% consultant
     – 23% online search
   • 89% would use Extension resources more if they were easier to find
   • 92% agree MyFields.info would be an effective way to deliver Extension tools/resources
   • 87% would be willing to create an account to access MyFields tools
   • 89% want alerts/notifications on crop-related risks
   • 52% want networking capabilities

B) Summary of pest sampler activity/survey (84 crop school participants):
   • For sorghum growers, there was a 47% increase in willingness to incorporate sampling forms into treatment decisions and a 68% increase in willingness to share sampling data on a web-based application.
   • For soybean growers, there was a 53% increase in willingness to incorporate sampling forms into treatment decisions and a 69% increase in willingness to share sampling data on a web-based application.

C) Summary of sorghum/soybean needs:
   • Sorghum Schools (53 participants)
     – 75% would use MyFields to manage sorghum
   • Soybean School (31 participants)
     – 73% would use MyFields to manage soybean fields

D) Extension Agent updates (32 Agents):
   • 93% of agents agree that Extension materials and resources would be used more often if they were more accessible (easier to find).
   • 60% of agents agree that networking (creating groups/chats) with other growers and/or agents on a web-based system like MyFields would be useful.
   • 55% of agents agree that the primary resource they are currently using from KSRE programming is verbal communication with area specialists.
   • When asked, what are stakeholders asking from agents that they are not able to provide?
     – 48% said information outside their specialty
     – 24% said mobile apps
     – 19% said real-time pest identification
MyFields will leverage push technologies to help you manage fields and farms!

The expanded version of iWheat to a multi-commodity site, MyFields.info, is a USDA-EIPM funded program (2014-2017). The application is being developed to:

• Facilitate economical and effective IPM systems for agronomic crops
• Provide stakeholders with high-resolution environmental and biological monitoring system for predicting pest incidence, estimating economic losses, and providing input-specific and valid action thresholds across multiple cropping systems
• Connect varying diagnostic tools for arthropods, diseases, and weeds.
• Provide a novel delivery method (i.e. MyFields) for implementing IPM by pushing management information to stakeholders based on account preferences, field locations, and varietal selections, which ensures a multi-directional flow of information across several disciplines (i.e., agronomy, entomology, pathology, agricultural economics).

✔ If you already have an iWheat account, then you will receive email notice when MyFields.info goes live.
✔ iWheat accounts automatically transition to MyFields.info.
✔ New multi-commodity site is designed to push variety-specific information to user based on preferences (e.g., state, county, crop type, variety, etc.)
To push variety-specific information to the user, the ‘Plant a Field’ feature will allow the user to link a variety with a registered field.

Based on the variety planted, the user can be notified when information regarding management of that variety is available, such as risk of pest outbreak (i.e. varietal susceptibility/resistance to pests and stresses).

Proposed smartphone view of planting wizard. Select variety from the Variety Support System (1) and choose to Plant this Variety to a registered field from your computer (2) or smartphone (3). Varieties are then saved in field history (4).
**myFields** Diagnostic Guide: coming soon!

- Sponsored by Kansas Crop Improvement Association
- Based on *Diagnosing Wheat Production Problems in Kansas* (S-84)
  - Updated information for 2015 (DeWolf and Shroyer)

**Proposed smartphone view of diagnostic guide.** Select crop and growth stage (1) to view only the relevant information that you need. If you have an idea of the problem, you can choose to see topic-specific guides (2-3).

1. Please select your crop
   - Wheat
   - Corn
   - Soybean
   - Sorghum

2. Please select your growth stage
   - Seedling
   - Early season
   - Mid season
   - Mature

3. What is bothering your crop?
   - I have no idea
   - I have a hunch

4. If you’re not sure of the issue (4), then you can start from scratch by identifying and reporting symptoms (5) to help narrow down the possible causes (6).

5. Where do you see symptoms?
   - Whole plant
   - Leaves/Stems
   - Field
   - Roots

6. Additional symptoms
   - I have spotty emergence
   - I have sprayed herbicide recently
   - Plants are exposed to drought
   - Plants are exposed to heat stress

5. Submit a sample
6. Upload image
You asked for it! Top priority tool selected by farmers, consultants and Agents is a chemical selector (IPM focused).

Based on 2014 *Chemical Weed Control in Kansas* (Thompson and Peterson)

Proposed smartphone view of chemical selection tool. Select crop first (not shown), then weed type (1) and species (2) that you wish to control. The tool will display the performance ratings (3) and application information (4) for chemicals tested by KSU Extension personnel.
Brian McCornack, PhD
Associate Professor

207 Waters Hall Annex (Office)
123 W. Waters Hall (Shipping)
Manhattan, KS 66506

Phone: (785) 532-4729
Fax: (785) 532-6232
mccornac@ksu.edu
Website: http://www.ksu.edu/ipm
Follow me on: Facebook and Twitter

Areas of Specialization and Interest:

Insect Ecology, Ecosystem Services (native pollinators and natural enemies), Integrated Pest Management (sampling, bioeconomics), Remote Sensing and Unmanned Aerial Systems (UAS), Invasive Species, Web-Based Decision Support Systems, and Digital Delivery

Current Appointment:

70% Research, 20% Extension, 10% Teaching

Education:

B.S. Biology, Luther College, Decorah IA, 1998
M.S. Entomology, Michigan State University, East Lansing MI, 2002
Ph.D. Entomology, University of Minnesota, St. Paul MN, 2007