Summary on Wheat Stem Sawfly
Extension Focus Group Meeting
Dickinson REC, January 9, 2010

Extension Priorities and Needs:

a) Sawfly post-harvest survey (help assess population prior to planting the subsequent year)
b) Extension factsheet and video on wheat stem sawfly *(Knodel is working on.)*
c) How to scout for wheat stem sawfly and parasitoids (identification key)
d) Where to get scouting supplies for trapping or sweeping?
e) Web-based literature – e.g. NDSU Extension website *(Knodel is working on.)*
f) More regional meetings with growers about research/extension updates on wheat stem sawfly
g) Training programs during field season or Hands-on at Field Days
h) Pulling information together (IPM multi-tactic approach to addressing sawfly problem in wheat)
i) More educational information for growers
j) Press release on this meetings (the more publicity the better awareness of wheat stem sawfly issue, NDWC) *(Knodel is working on.)*

Research Priorities and Needs:

Biology

a) Wheat stem sawfly cycles:
    - Better understanding of local, regional cycles and reasons why
    - Why is it more of a problem now?
b) Degree Day Model: needs to be validated for MT and ND
c) Prediction Model needed
d) Better understanding of variation in environment and how it impacts wheat stem sawfly populations

Damage caused by wheat stem sawfly to host crop:

a) Continue to evaluate physiological effects of wheat stem sawfly on kernel mass, test weight, protein, etc.

Integrated Pest Management

Scouting

a) How to scout for wheat stem sawfly and parasitoids
b) Identification of pest and parasitoids (key)
c) Increase awareness of pest

Cultural Control

a) Does the interaction of inputs and plant health affect wheat stem sawfly?
b) Effect of soil fertility, type, moisture on sawfly populations and survival
c) Continue work with different trap cropping systems

Crop Rotation

a) How are sawfly populations and my crop rotation practices impacted by my neighbors?
b) How does crop rotation impact parasitoid populations and conservation?
c) How does 1 million acres out of CRP impact populations of wheat stem sawfly.
d) Develop more solid-stemmed varieties and get into grower hands quickly

Host plant resistance (wheat breeding)

a) Solid-stemmed varieties: Increase 'Mott' and develop more solid-stemmed varieties
b) Role of biotechnology in varietal development in the future
c) Increased access to sawfly resistant varieties
d) Continue to update technology to include mechanisms of resistance (antibiosis, antiexnosis (non-preference – e.g. Conan)
e) More genetic research on oats that is resistant to sawfly. Can oat gene be put into wheat or is the gene in wheat but not turned on?

Biological Control

a) More information on parasitoid conservation, identification in field, and classical biocontrol (introduction of new exotic parasitoids for control of sawfly)
b) How to know the levels of parasitoids in fields
c) Is parasitoid farming feasible?

Other:

a) Winter wheat – Why is sawfly is adapting to winter wheat?
b) Detailed economic analysis of sawfly problem and its implications for pest management

General Comments:

1. Continued cooperation with other research/extension entomologists in Montana, Canada, etc.
2. Need comprehensive summary of what we know to date on wheat stem sawfly (Note: The new 2010 NDSU Extension Factsheet will help address this need.)
3. Need more NDSU participation in meetings on sawfly
4. More people, research, funding need to manage sawfly and protect our wheat industry
5. How to increase funding? And grower support?
6. Estimate / Quantify benefits of research, check-off $ (what is the multiplier effect 1x, 2x, …)
7. Wheat stem sawfly initiative
8. Make easier for producers to actively participate in research/extension activities on sawfly. For example, trap strip study – monitored by research and extension personnel
9. More research on IPM strategies for control of wheat stem sawfly