

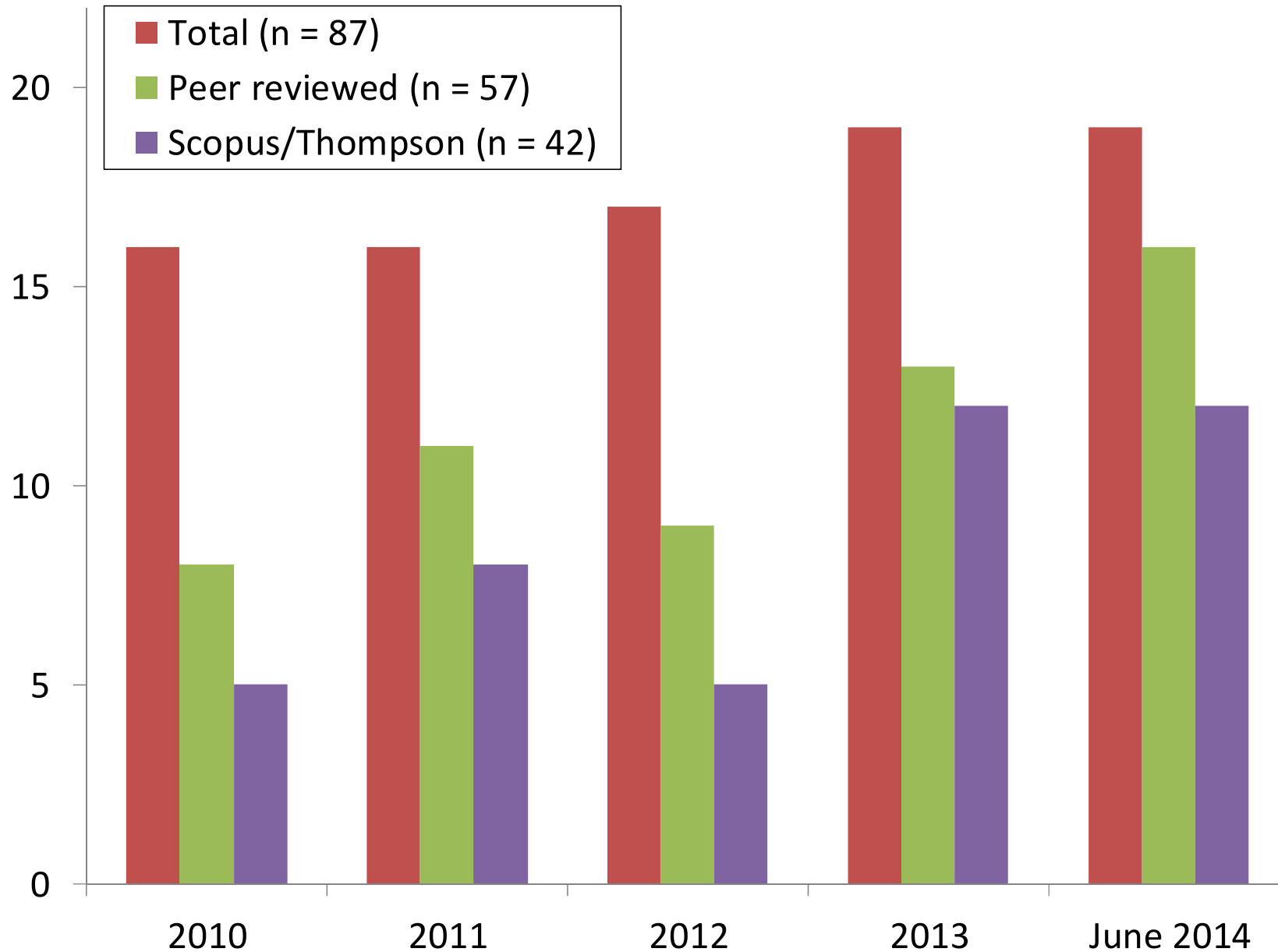
Highlights of Recent Adoption and Impact Assessment Studies: CRP-Maize and CRP-Wheat

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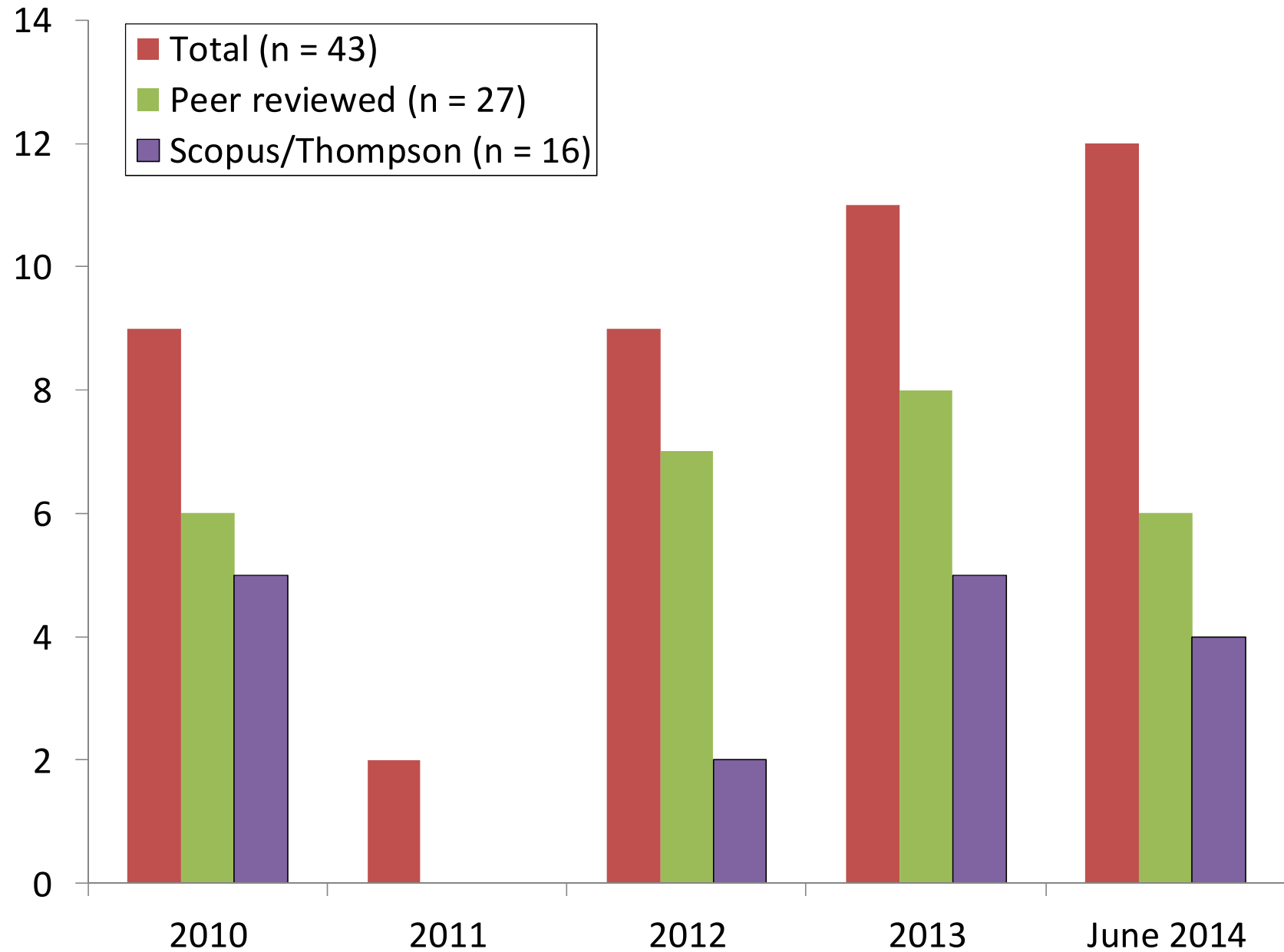
IAFP meeting, Minneapolis

July 25, 2014

CRP-Maize IA studies, 2010 – June 2014



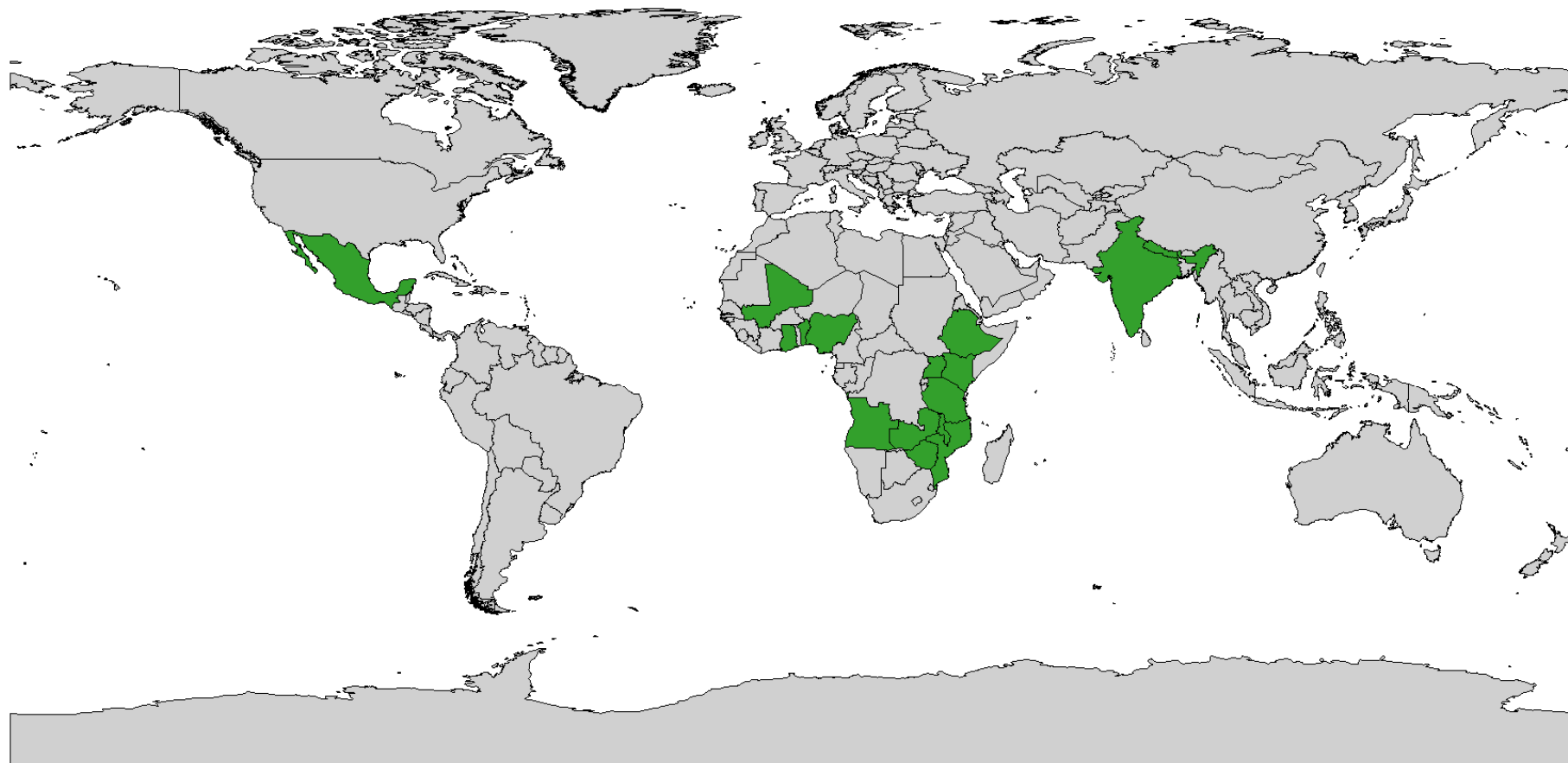
CRP-Wheat IA studies, 2010 - June 2014



Overview CRP-Maize studies, 2013-2014

- 21 adoption/IA journal publications.
- Technologies: improved maize varieties, conservation agriculture, dual purpose maize, drought tolerant maize, post-harvest storage, and QPM.
- Study types: adoption, *ex ante* IA, and *ex post* IA.
- Impacts: yield, maize consumption, food security, income, poverty, and maize losses.
- Data used: Cross sectional, observational from CIMMYT or IITA project surveys.

CRP-Maize IA studies & surveys, 2013-2014



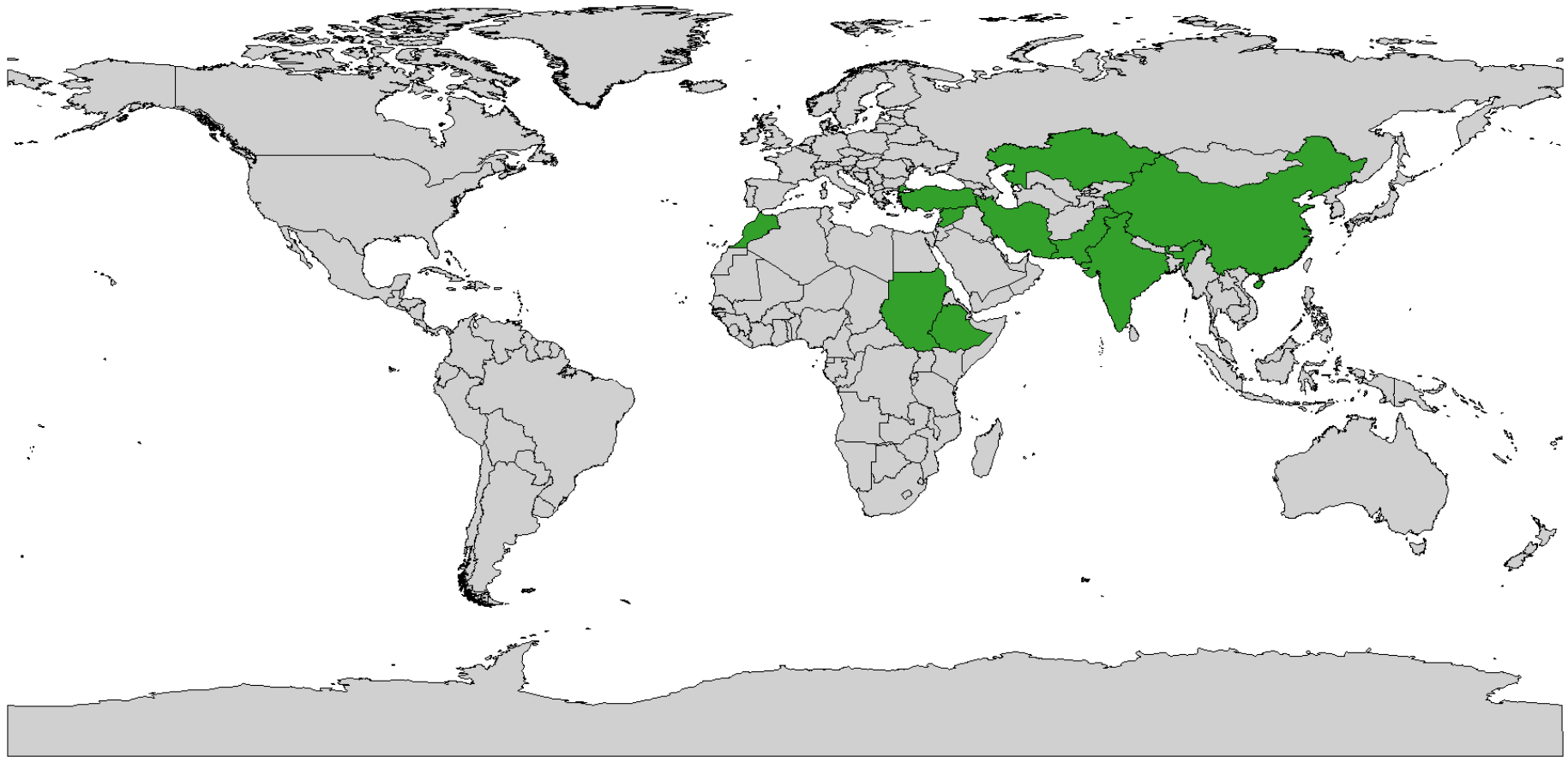
Overview CRP-Maize studies, 2013-2014

- Empirical approaches: descriptive statistics, regression, propensity score matching, random effects, spatial analysis
- Select findings:
 - In Tanzania, improved maize occupied 39% of total cropped area. A one-acre increase in area allocated to improved maize increased food security probability about 2.6%.
 - In Kenya, metal silos associated with nearly complete elimination of maize losses due to insect pests, saving farmers about 150-200 kg of grain (US\$130) per year.
 - In Malawi, area under improved maize varieties positively associated with own maize consumption, income, and wealth, and adoption had a stronger impact for the poor.

Overview CRP-Wheat studies, 2013-2014

- 10 adoption/IA journal publications.
- Technologies: improved wheat varieties, zero tillage, laser leveling, and earlier sowing.
- Study types: *ex post* IA, adoption, and *ex ante* IA.
- Impacts: yield most studied, but also net farm revenue, poverty, food security, GHG emissions.
- Data used: Cross sectional, observational from CIMMYT or ICARDA project surveys.

CRP-Wheat IA studies & surveys, 2013-14



Overview CRP-Wheat studies, 2013-2014

- Empirical approaches: descriptive statistics, endogenous switching regression, propensity score matching, satellite images with crop modeling results
- Select findings:
 - The expected average global losses per year for a 1961-2009 counterfactual world without durable stem-rust resistance is 6.2 MT wheat or US\$1.12 billion.
 - In Ethiopia, 70% adoption of improved wheat which is associated with increased food security of 2.7% to 4.5%.
 - In Haryana India, zero tillage vs. conventional tillage: 20% reduction in input costs, 28% increase in net revenue, reduction of GHG emissions.

Some future plans

- Continue the use of propensity score matching, instrumental variables, etc.
- Develop a uniform, core set of adoption/impact questions
- Collect panel datasets (e.g., SIMLESA, DTMA)
- Make use of large, nationally representative secondary datasets (e.g., LSMS)
- Randomized control trials (e.g., CASFESA, NuME)
- Identify gaps in existing IA research