Enhancing Agricultural Productivity and Food Security through Ecologically-based Integrated Pest Management (IPM) Programs in Central Asia

The countries of Central Asia were isolated for more than 60 years during the former Soviet Union regime. Pest management programs in Central Asian agricultural systems during this era were designed around the intensive use of chemical pesticides and monoculture cropping systems. To break this isolation and introduce ecologically-based pest management approaches, Michigan State University (MSU) in collaboration with University of California Davis (UC-Davis) and the International Center for Agricultural Research in Dry Areas (ICARDA) have implemented a regional Integrated Pest Management (IPM) program in Central Asia since 2005. This regional program is funded by the USAID.

This collaborative research and capacity building program has included research to improve pest management through enhancing capacities of existing biolaboratories and through a better understanding of landscape ecology, local biodiversity, and habitat management. More than 50 native and locally adapted flowering plants have been evaluated for their attractiveness to natural enemies of pests. Out of more than 50 locally collected plants screened, 8 plants have shown potential for their use in agricultural landscapes for enhancing biological control of pests. IPM outreach and educational activities have been initiated through Farmer Field Schools (FFS) and Student Field Schools (SFS) in collaboration with national agricultural research systems (NARS), non-governmental organizations (NGOs) and local universities.

Building on the strong foundation and the regional network established during past four years, MSU and UC-Davis led consortium is now implementing a new five-year collaborative program to develop and deliver ecologically-based IPM packages for key food security crops in Central Asia - wheat, tomato and potato. The IPM packages for these three crops are targeted to address key pest management problems in Tajikistan, Kyrgyzstan and Uzbekistan. In developing IPM packages for these crops, the project team is collaborating with international agricultural research centers, government research institutions, NGOs and local universities in Central Asia.


Tajik employee with insects reared in a biolab.


Bread made from wheat is an important part of local diets.


The project includes collaboration with scientists and trainers.


Native plants that attract beneficial insects for biocontrol.

Pest diagnostic training by team members in Kygyzstan.

Collaboration in project development during 2009 Forum in Kygyzstan.

IPM in potatoes and tomatoes along with wheat are emphasis areas.

As a part of the training and capacity building strategy, over a five-year period, the project will train graduate students, and provide opportunities to IPM professionals from the region to attend various training programs, workshops, seminars and short courses with due consideration of gender balance. Through regional and global partnerships, the project will create the "Central Asia IPM Knowledge Network" that will encompass a cadre of well-trained IPM specialists, master trainers, IPM packages, an extensive information base in local languages and strong institutional linkages to sustain this network. The project places a strong emphasis on scholarship, publications and dissemination of research results through both electronic and print media. For more information on the Central Asia IPM CRSP, please visit the website: http://ipm.msu.edu/central-asia.htm

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