



WWF/WPVGA/UW

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History: The World Wildlife Fund (WWF) teamed up with the Wisconsin Potato and Vegetable Growers Association (WPVGA) and the University of Wisconsin (UW) to educate growers about using more biologically based pest management systems. The WWF/WPVGA Collaboration was formed in 1996 to establish a working relationship between the two organizations to promote the development and adoption of biointensive IPM practices, to enhance habitat quality, to refine measurement systems for IPM adoption, to look for marketplace incentives for ecologically produced potatoes, to identify policies and programs to support environmental goals, and to maintain economically viable farming systems. The University of Wisconsin, which had always provided pertinent research, education, and information to the project, officially became a part of the three-legged stool in 1998 to form the WWF/WPVGA/UW Collaboration as it is known today.

Grower Accomplishments: The collaboration has achieved significant progress toward reducing the toxicity levels of pesticides used in potato production while increasing biointensive IPM adoption. The growers in Wisconsin have achieved a 21 percent overall reduction of toxicity in the system from 1995 to 1999 (toxicity values for each pesticide are determined by the relative environmental and human risk they pose). Of 11 specifically targeted high-risk pesticides, a 37 percent reduction of toxicity units from the 1995 baseline to 1999 was observed.

The Standard: Collaboration measurement methods provided a solid foundation for the development of an eco-label for potatoes grown within a biointensive IPM system. In the fall of 2000, ecological standards were written for potatoes. The eco-standard is divided into 2 parts, 1) an biointensive IPM adoption section and 2) a toxicity score. In the biointensive IPM portion of the standards, there are certain practices that growers must do (such as rotation) in order to be certified or they are automatically eliminated. Conversely, some practices are considered to bonus questions which allow growers to add to their total points. The toxicity guidelines are written so that growers minimize the amount of high-risk pesticides that are applied to that field in a given year. The toxicity units totals are derived from toxicity values developed from the WWF/WPVGA/UW Collaboration. Growers must limit the total number of toxicity units applied during the year to be eligible for certification. The standards are deliberately set at a high level after industry wide surveys determined pesticide toxicity and IPM adoption in Wisconsin since 1995.

The Healthy Grown Brand: The bioIPM adoption and pesticide risk reduction goals culminated in the marketplace introduction in 2001 of a new brand, *Healthy Grown*. The *Healthy Grown* brand, overseen by an independent non-profit organization, "Protected Harvest", evolved in response to growing consumer demand for environmentally responsible production methods and to provide consumers more food choices. The "Protected Harvest"/*Healthy Grown* labels, which are now in place, are rewarding the achievements the growers have already made in regards to pesticide reduction and IPM adoption. Sales for "Healthy Grown" potatoes continue to grow and are now being found in mainstream grocery store chains in the upper Midwest.

The Results: The results achieved by the “Healthy Grown” program have been impressive thus far. Approximately 10% of the state’s fresh market potato farmers have participated in the program. Within this very select group of participating farmers, adoption of biologically-based IPM has increased by 16% in 4 years and pesticide toxicity has declined a further 22%. These results were recognized nationally in 2003 when the Partnership of farmers received one of the prestigious USDA Secretary’s Honor Awards for Maintaining and Enhancing the Nation’s Natural Resources and Environment.

New Tools: The *SureHarvest* Farm Management System (developed by *SureHarvest*, Soquel, CA) incorporates the collection and analysis of information such as IPM practices (used in the Healthy Grown eco-production standards), geo-referenced pesticide applications and pest scouting, fertility applications, growth and development, tillage, irrigation, planting and harvest activities, and other management practices utilized in daily farming operations. The software incorporates the automated collection of weather data for P-day and severity value calculations as well as soil moisture monitoring and irrigation scheduling. Currently, the database system has the ability to store and analyze data for potatoes, snap beans, sweet corn, soybeans, peas, carrots, onions, field corn, and alfalfa. In addition, Protected Harvest certification requirements are included to help growers enrolled in the Healthy Grown program through the auditing and certification process. Once a year, the participating growers are required to provide their data to the industry where the combined information will be useful to the industry in setting research priorities. This combined data will be important for researchers in providing a multi-disciplinary approach to potato and vegetable production systems by allowing researchers to utilize current on-farm practices and information to tackle emerging management issues.

A Potato Biointensive IPM Workbook has been developed for Wisconsin potato growers and the potato industry. It is organized seasonally to provide a comprehensive, year round self-assessment and reference on pest management, cultural and production practices of the potato production system. The workbook is organized into five chapters – preplant, planting, in-season, harvest, and post-harvest. Each chapter is further divided into pertinent topic sections with self-assessment questions followed by information on standard recommended practices as well as advancements to a biointensive production system. The workbook is intended as a practical tool for growers’ use throughout the entire production cycle. The workbook will help growers learn how to move toward a more biologically-based production system that is ecologically sound and economically profitable.

New Initiatives and Challenges: The collaboration is moving to address other agro-environmental challenges. The University of Wisconsin- Madison potato IPM team is conducting on-farm research on improving soil health and water quality through the use of compost, cover crops, and other soil indicators. Research is also focused on alternatives to the use of toxic soil fumigants in order to meet a 50% reduction goal of fumigant toxicity by 2007. The International Crane Foundation is overseeing a pilot program to conduct on-farm audits of natural communities-prairie, savanna, wetlands and forests-and develop farm plans to conserve and restore these important habitat types. Finally, in order to facilitate setting and monitoring goals of improved water quality, soil health and ecosystem function, the collaboration is working to develop and field test credible measurement tools.