September 23, 2006

Agricultural Research Service North Atlantic Area Wins FLC MAR Award for Crop Planning Software

The Mid-Atlantic Region of the Federal Laboratory Consortium this year presented the Regional Excellence in Technology Transfer Award to Dr. C. Wayne Honeycutt, Dr. Robert Larkin, Dr. John Halloran, Dr. Timothy Griffin and Dr. Sukla Lakshman of the New England Plant, Soil and Water Laboratory, North Atlantic Area, USDA Agricultural Research Service for work on "Potato Systems Planner Decision Support CD."

Identifying customers' priority research needs is one of the most critical steps in guiding development of technology with the highest relevance and adoption potential. Consequently, our laboratory initiated and co-organized a "Research Visioning Workshop" for the Maine potato industry to identify and prioritize their research needs. The number one research priority was finding and developing profitable crop rotations for potato. Responding to this research direction, a total of 14 different cropping systems were evaluated for their impacts on potato yield and quality, nutrient availability, plant diseases, soil microorganisms, potential profitability, economic risk, and other factors.

This information was developed into the "Potato Systems Planner", a decision support tool on compact disk to assist growers in selecting profitable, environmentally sound cropping systems and management practices. For example, the Planner shows that growing sweet corn in rotation with potato can increase profitability by approximately $400/acre. Computer simulation results presented in the Planner show that the probability of an economic loss for the sweet corn-potato system is only 3%, while the potato-potato system is 37%. The Planner also shows that growing canola before potato reduces soil-born diseases in potato by 20-50%. This translates into higher potato yield and quality, along with substantial economic, environmental, and health/safety benefits associated with less pesticide needed to control these diseases. The Planner shows that growers can reduce Nitrogen fertilizer to potato by as much as 100 lbs N/acre when following either green bean or soybean. This is not only a direct economic benefit to the grower, saving approximately $90/acre in input costs, but it also has a broader societal benefit because Nitrogen fertilizer production requires fossil fuel. These and many other research findings are presented in the Potato Systems Planner so that growers can make the most informed cropping system selections and employ the most appropriate management practices that are economically and environmentally sustainable.

Between March 2005 and July 2006, over 750 copies of the Potato Systems Planner were distributed to growers, consultants, extension specialists, and scientists who are now using the Planner in 21 states (AK, CA, CO, FL, GA, ID, IL, KS, MD, ME, MI, NC, ND, NY, OR, PA, SD, TX, VT, WA, WI); seven Canadian provinces (MB, NB, NS, ON, PE, QC, SK); and 10 countries (Argentina, Australia, Canada, Chile, Germany, Italy, Mexico, New Zealand, Peru, and USA). The Planner has been selected as one of only 11 "science track" presentations for the World Potato Congress in August 2006 in Boise, ID. A Potato Systems Planner booth is being used to demonstrate the Planner at the World

Potato Congress where it is expected that this technology will be transferred to several hundred more customers, stakeholders, and partners of our federal laboratory.

One of the most coveted awards in the field of technology transfer, FLC awards for Excellence in Technology Transfer recognize laboratory employees who have accomplished outstanding work in the process of transferring Federally-developed technology to the marketplace. The award was made on September 21 at the region's annual meeting.

The Federal Laboratory Consortium is comprised of the technology transfer offices of all of the Federal laboratories throughout the country while its Mid-Atlantic Region focuses on the 70 Federal laboratories in DC, DE, MD, PA, VA and WV.

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