

Helping Farmers Produce More and Healthier Food

Can research unlock the door to increased crop yields and foods that enhance human health and fitness? Scientists at PPI/PPIC and the Foundation for Agronomic Research (FAR) think there are opportunities to do just that...manage crop production for higher yields and better food quality. To that end, PPI/PPIC and FAR announce two new research initiatives: **Narrowing the Yield Gap with Knowledge and Technology** and **Managing Crop Production for End-Use Quality**. These initiatives provide the opportunity to assemble a coalition of North American stakeholders to support cropping systems research that exceeds individual interests and abilities.

Narrowing the Yield Gap with Knowledge and Technology – The previous issue of *Better Crops with Plant Food* (2000, No. 1) reviewed and documented the tremendous yield potential in North American agriculture. There is a huge gap between attainable crop yields and yields normally harvested. The challenge is to sort out management factors that must be implemented to narrow this gap. This initiative hopes to define:

- attainable yields in different environments using the latest genetics, cultural practices, and technologies
- a reproducible framework for growing high yields for specific cropping systems, while protecting the environment
- the role of phosphorus (P), potassium (K), and other inputs and practices (e.g. tillage systems, crop rotations, hybrids, plant population, pest management strategy, etc.) in high yield environments.

The target audiences of this initiative include: farmers who need higher yields to spread their fixed costs over more units of production, agribusiness firms needing to know how to place their products into systems that offer the greatest potential benefits to the pro-

ducer and environment, site-specific precision practitioners who need to know how to combine input and management practices, and governments and institutions defining acceptable criteria for nutrient management plans.

Managing Crop Production for End-Use Quality – This issue of *Better Crops with Plant Food* includes two articles on crop quality and “functional” or “designer” foods that contain bio-active ingredients, or phytochemicals, believed to enhance human health and fitness and that may be manipulated through agronomic management. The growing demand by health-conscious consumers is driving a billion dollar market that producers cannot afford to ignore.

Functional foods are associated with the prevention and treatment of disease and other medical ailments. The opportunities for biotechnology to genetically augment phytochemicals in crops are great, but genetics alone won’t optimize functional food components. Agronomic practices and weather can have a big impact, and plant nutrition cannot be ignored.

This initiative will integrate with the **Narrowing the Yield Gap with Knowledge and Technology** initiative and study the quality impacts of crop management on functional food phytochemicals. It is designed to take advantage of consumer interest and new developments in biotechnology to help farmers produce healthier foods and provide convincing information to consumers that foods produced by intensive agriculture are of high nutritional quality.

Additional information on both initiatives is available from FAR, any PPI/PPIC office, or at www.ppi-far.org. 

