
Top 100 Questions of Importance to the Future of Global Agriculture

A group of international scientists recently published their compilation of “The Top 100 Questions of Importance to the Future of Global Agriculture” in the International Journal of Agricultural Sustainability. The report points to research needed to feed a world population of nine billion by mid-century. I found it interesting how many of the questions align quite closely to the needs and challenges of Southeast Nebraska’s agricultural producers.

- 1-7. **Natural Resource Inputs** - are questions on how to predict and plan for climate change factors, efficiency of water use for both rainfed and irrigated areas, and agriculture production techniques effects on natural ecosystems. I can certainly identify my current educational efforts in irrigation scheduling, buffer strips and no-till methods in this set of questions.
- 8-22. **Soil Nutrition, Erosion, Fertilizer, Biodiversity, Ecosystems, and Conservation** - I like this section because many questions are about potential of soil health and microbiological systems to improve crop yields. How do we further intensify production while protecting that critical layer of topsoil. The answers have to be new and better options than where we have come from when our forefathers plowed the plains. The kinds of soil loss we have had in our past are not sustainable.
- 23-41. **Energy & Crop Production Systems** - How do we continue to improve production in water and energy efficient and resilient systems while protecting our frailest natural areas.
- 42-46. **Crop Genetics** - Genetics are a part of the production system, gains can be slow and steady or more significant. The question is how to maintain the slow steady progress while maintaining diversity, stability, and potential damage to natural systems.
- 47-52. **Pest and Diseases** - They will always be with us, we need to continually adapt management and control practices to be effective and environmentally acceptable.
- 53-58. **Livestock** - Terrestrial and aquatic livestock are a key and critical part of our food supply. Questions focus on growing livestock using carbon sources not otherwise available.
- 59-78. **Social, Governance, Economic Investment and Policy** - Balances between large farms and small holder, tariffs and free trade, richer and poorer countries, private operations and corporate systems, capital access and subsistence methods are all challenges in our future.
- 79-87. **Food Supply Chains** - Current trend in the farm to fork chain is year around provision at the lowest cost needs to be assessed by carbon, energy and water use footprints. I was involved in the development of a carbon footprint for Crete Mills in 2010. How do we explore and develop crop diversity in the face of caloric dependence of the seven major crops: wheat, rice, corn, potatoes, soybeans, sugar cane and sugar beets?
- 88-94. **Prices, Markets and Trade** - Small changes in Production can lead to large fluctuations in price and access on world market. How can national policies both protect their citizens and make food available in critical shortage areas and poorer economies.
- 95-100. **Consumption Patterns and Health** - How will systems evolve to tie healthy diets to production systems. What role will future diets play in advancement of medical care.

Paul C Hay, Extension Educator

University of Nebraska-Lincoln Extension in Gage County • 1115 West Scott Street, Beatrice NE 68310

(402) 223-1384 • FAX: (402) 223-1370 • email: phay1@unl.edu

