Role of Fertilizer in Feeding the World

In 2050 the population is projected to be nine billion. Agricultural production will need to double in the next 30 years to meet the food, fiber, animal feed and biofuel needs. Farmers worldwide will be expected to grow crops and raise livestock under conditions of rising input costs, dwindling natural resources, stricter environmental regulations and climate change.

University research has demonstrated that commercial fertilizers and manures account for 40-60% of crop production in the world today. Fertilizers have made it possible to sustain the growing population by producing more food from a unit of land. By doing so, fertilizers spare millions of new acres from being converted to agriculture. The world food crisis has prompted public recognition that judicious use of fertilizer and manure are integral parts of the solution to feeding the world.

Since synthetic fertilizers are made from non-renewable resources, pressures to increase their efficiencies and effectiveness will continue. The goal is to achieve a balance between optimal nutrient use efficiency and crop productivity. Nutrient losses that can potentially harm the environment should be carefully managed.

Program Sponsors:
AgBioResearch
Michigan Soybean Promotion Committee

MISSION

MSU Extension Soil Academy is dedicated to promoting a greater understanding of Michigan soils through a series of educational programs that will highlight profitable crop production and environmental stewardship.

This event features Kurt Steinke and other excellent speakers from MSU sharing information on a wide range of soil and nutrient topics including:

- Soil health—Looking beyond organic matter
- Cool diagnostics and gadgets to assist with in-season nutrient applications
- Plant health and the 4R’s of nutrient management
- Michigan corn, soybean, wheat check-off funded nutrient management research
- Starter, pop-up, pre-plant, or split fertilizer applications: Which option is best?
- Soil microbes and cover crops
- Maximizing fertilizer use efficiency
- Environmental, economic and social outcomes desired by all stakeholders?

Presented by:
Eaton County MSU Extension
MSU Extension Field Crops team
Soil Health—Key to sustainability?
Soil is a living ecosystem. Soil microbes particularly fungi and mycorrhizae enable roots to extend their reach and access nutrients and water. These microbes have been sequestering carbon for millions of years under increasing unruly climate to combat the loss of organic matter. To unlock the full potential of these microbes and sustain the biological productivity of the soil, this sensitive ecosystem needs to be carefully managed. This event will spotlight how cropping systems, cover crops and emerging technologies may contribute to soil health.

What is 4R Nutrient Stewardship?
4R Nutrient Stewardship concept defines the right source, right rate, right time, and right placement for fertilizer practices as those producing the economic, social and environmental outcomes desired by all stakeholders. In the food system stakeholders include not just farmers and their advisors but also those who purchase food and reside within the system—almost everyone becomes a stakeholder to some degree.

Right Source  Right Rate  Right Time  Right Place

Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, disability, political beliefs, sexual orientation, marital status, family status or veteran status.

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MSU Extension Nutrient Management Update

Tentative Agenda

MORNING SESSION 9:30 am – 12 noon
FEATURED TOPICS
- Introduction to MSU nutrient management program and research update
- Extend your N: Q & A on using N inhibitors and performance response trials
- Corn N—early, late, or somewhere in between?
- Soybean agronomic considerations
- Corn, soybean and wheat check-off research update
- Pop-up and starter fertilizer planter demo

Morning Speakers:
Kurt Steinke — MSU Extension specialist
Andy Chomas — MSU Research Technician
Mike Swoish — Research assistant
Noah Rosenzweig — MSU Plant Pathology

12 NOON – 1:00 pm -
Great outdoor lunch and camaraderie with fellow growers and friends!

AFTERNOON SESSION 1:00 to 3:30 pm
FEATURED TOPICS
- Soil health, microbial activity, cover crops, and yield interactions
- Various nutrient response trials
- Integrating 4R nutrient management and soil health
- Cool diagnostics and plant health considerations for in-season nutrient applications
- Wheat 2015: Looking for winning N combinations

Afternoon Speakers:
Kurt Steinke — MSU Extension specialist
Jeff Rutan — Research assistant
Chris Bauer — Research assistant
George Silva — MSU Extension

3:30 PM – CCA, MDARD Credits and Adjourn

5.5 CCA, 3.0 MDARD and MAEAP Phase 1 credits approved

For-on-line registration using credit card:
visit: http://events.anr.msu.edu/NMU

Registration Form
Nutrient Management Update and Annual Plot Tour
Wednesday September 9, 2015
(Alternate date for rain - September 11, 2015)

Name: ____________________________
Address: ____________________________
City: ____________________________
State/Zip: ____________________________
Phone: ____________________________
Organization: ____________________________
County __________________________________________
E-mail: ____________________________

Cost is $45 per person (includes lunch, refreshments, plot tour and handouts). Registration is limited to the first 100 applicants.

Amount enclosed: $________

For registration using check:
*Please fill one form per person. Make checks payable to: Michigan State University

Mail the completed registration form and check to: ANR Communication Event Services MSU Agriculture Hall Room 312 446 W. Circle Drive, East Lansing, MI 48824-1039

For more program or registration information:
email ksteinke@msu.edu or silvag@msu.edu or call 517-543-4467.

If you need driving directions, please call (517) 543-2310 or Fax: 517-543-8119. Free parking is available.