Idaho Crops & Soils News

A newsletter for Idaho crop producers

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The goal of this monthly newsletter is to serve the best interests of Idaho crop producers. Correspondence and inquiries should be addressed to: Olga Walsh, Cropping Systems Extension Specialist, Southwest Research and Extension Center, 29603 U of I Lane, Parma, ID 83660, Phone: (208)722-6701 (ext. 218), Fax: (208)722-6708, Email: owalsh@uidaho.edu

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University of Idaho Extension improves people’s lives by engaging the University and our communities through research-based education. Our areas of expertise are Agriculture, Community Development, Family and Consumer Sciences, Natural Resources, and Youth Development.

To enrich education through diversity the University of Idaho is an equal opportunity/affirmative action employer and educational institution.
WHAT’S NEW?

On-farm Research/Precision Ag Webinar - December 9

**Date:** Wednesday, December 9, 2015

**Time:** 1:30 to 2:30 pm Eastern/12:30 to 1:30 pm Central/11:30 am -12:30 pm Mountain/10:30 - 11:30 am Pacific

**Title:** On-farm Trials: How Do You Know a Good One When You See One?

**CEUs:** CCA/CPAg: 1.0 Crop Management
CPSS/CPSC: 1.0 Professional Meeting

**Webinar Description:**
Improving nitrogen (N) and water use efficiency for cropping systems is of significant agronomic, economic, and environmental value to stakeholders. Precision agriculture technologies and methodologies offer potential opportunities for improving N and water management. The most promising way to improve the efficiency of agricultural inputs - is to apply them based on site-specific crop requirements. Sound N and water recommendations should take into account spatial (field-to-field, within a field) and temporal (within a season, among seasons) variability in soil residual N and available water. Crop yield potential response to N and water varies greatly depending on a variety of environmental factors. Crop canopy sensors enable us to access crop nutrient and water status mid-season and have been successfully utilized to predict yield potential in many crops around the world. Incorporating environmental characteristics, such as an estimate of crop water status, should further improve N and water recommendations. Conducting precision agriculture research in on-farm conditions offers several key advantages. It encourages collaboration of crop producers with the research institutions, includes growers in the management decision process, and generates results the local growers can trust. Furthermore, on-farm projects enhance the educational outreach and encourage the acceptance and adoption of precision agriculture technologies and methodologies. The webinar will provide information on completed and current on-farm projects focusing on precision N and water management. In addition, an overview of key components required for successful planning and implementation of on-farm studies will be covered.

**Speaker Bio:**
**Dr. Olga Walsh** is a Cropping Systems Agronomist and Extension Specialist with the University of Idaho’s Parma Research and Extension Center. Olga was hired to direct the Cropping Systems program in September 2014. The program’s primary goals are two-fold: 1) develop applied research projects that address pressing needs of crop producers in Idaho and the Pacific Northwest region, and 2) conduct educational outreach to agricultural professionals. The program is currently focused on developing scientifically-based, field-tested, unbiased grower...
recommendations that would improve sustainability and profitability of farming operations. The current projects are in wheat, barley, dry beans, alfalfa and corn. Olga’s training and background is in Soil Fertility and Plant Nutrient Management. Originally from Russia, she obtained her BS degree in Soil Science at St. Petersburg State University, Russia. She received her MS and PhD degrees at the Oklahoma State University, Stillwater, OK. Prior to her UI appointment, she served as a Soil Nutrient Management Specialist with the Montana State University for 4 years. Olga is a published author on a variety of precision agriculture topics and has presented at numerous national and international precision agriculture events. Olga manages and writes for a Cropping Systems Blog (Idaho Crops & Soils), and writes and publishes a monthly newsletter - Idaho Crops & Soils News.

Sensors in Agriculture: An Idaho Ag Tech Conversation

WHEN: Wednesday, December 16, 2015 from 2:00 PM to 5:00 PM (MST)
WHERE: Food Technology Center - University of Idaho - 1908 E. Chicago St. Caldwell, Idaho 83605

The goal of this event is to bring together people from Idaho’s agriculture, technology, and research communities to learn how sensors are currently being used in various agriculture operations and to explore where new opportunities exist for research, development and application. Areas that will be covered include water technology, pest control, advanced machinery and equipment, livestock, and weather tracking and prediction. The event will consist of a featured success story, presentations and Q&A sessions with representatives from the ag and tech communities, and small breakout groups to focus on topics of interest from the audience. An optional wine tasting event at the neighboring Hat Ranch Winery will be offered at 5pm.

Registration is FREE!

To register for the webinar:
Parma Cropping Systems program featured in ID Press Tribune

“UI soil scientist Walsh’s work taking off in Parma” - By Brad Carlson, Idaho Press Tribune.

For full text, please go to:

GUEST CONTRIBUTION

-by Kelli Belmont
Research Technician, Cropping Systems Agronomy Program, University of Idaho Parma R&E Center

Corn is cultivated as a row crop and grows 7-10 feet depending on variety and averages 500 to 1000 kernels per ear, arranged in an even number of rows, generally 16. There are six kinds of corn, however, the most common types include dent, sweet, and popcorn. More than 90 million acres are planted to corn in the United States (USDA ERS 2015). The US is the largest corn producer in the world.

Dent corn, also known as field corn, is named due to the dent or dimple that forms in the top of each kernel as it begins to dry out. Field corn is used for livestock feed, making corn syrup, and
everything from fuel to biodegradable plastics. Field corn is higher in starch and lower in sugar than sweet corn. There are two dent corn hybrids and are categorized by the color: white or yellow. Yellow dent corn is grown primarily for animal feed and industrial uses such as ethanol and cooking oils. White dent corn is grown for dry-mill processing such as making masa (tamales) and tortilla chips. More than 98% of corn grown in the U.S. is field corn.

Field Corn Uses:

- Livestock feed, whole cobs (for hogs only), whole or ground kernels, or (after chopping and ensilage) the entire aboveground portion of the unripe plant.
- Cereal products such as corn flour, corn meal, hominy, grits, tortillas, corn bread, and cold breakfast cereals (corn flakes).
- Processed food products including corn starch, corn oil, corn syrup, and high-fructose corn syrup.
- Alcohol and corn whiskey.

Sweet corn is harvested sooner than field corn. While still immature, sweet corn is picked at the “milk stage” and enjoyed as a vegetable, rather than dried out and consumed as a grain. Sweet corn is eaten on the cob, canned or frozen, and can be eaten as baby corn. If the plant dries, kernels can be removed and cooked in oil to make corn nuts. Sweet corn is seldom processed as feed or flour. Sweet corn gets its name because it contain more sugar than other types of corn.

Popcorn is a type of flint corn that has a soft, starchy center that is covered by a very hard shell. When popcorn is heated, the natural moisture inside the kernel turns to steam and build up enough pressure for the kernel to explode. When the kernel explodes, the white starch mass forms what you like to eat. Popcorn is one of the oldest forms, and was domesticated by Pre-Columbian indigenous people. There are two basic shapes of popped popcorn: snowflake and mushroom. Snowflake is used in movies theatres and ballparks because it look and pop bigger. Mushroom is used for candy confection because it doesn’t crumble. Other uses of popcorn include threading popcorn onto a string and used as a Christmas tree decoration.

Parma Cropping Systems team will be conducting a study in corn to evaluate nitrogen fertilizer product with the following potential benefits: 1) increases nitrogen availability and uptake; 2) manages nitrogen during key growth stages, and 3) reduces nitrogen loss.
GET TO KNOW ID AG
New Extension Publications

- **CIS on Nitrogen Fertilizer Use**

  Improving Nitrogen-Use Efficiency in Idaho Crop Production
  
  Introduction
  Environmental and socioeconomic forces have underscored the urgency to better understand the role and fate of nitrogen (N) in crop production systems. Nitrogen is a major nutrient for crop growth, and its proper application can result in substantial economic savings in the form of increased crop yields. However, applying N in the soil, the crops need, may result in economic losses and negative environmental impacts, as well as pose substantial risks to human health. Managing N efficiently achieves a balance between profitable crop production and environmental quality—a goal and a challenge. The behavior of N within the plant-soil system is complex, and understanding the basic processes that regulate N flow is essential for developing efficient N management programs.


- **PNW on Manure Sampling**

  Sampling Dairy Manure and Compost for Nutrient Analysis
  
  Introduction
  Water availability affects our daily lives directly and indirectly in many ways. The profound dependency on water is especially apparent when certain limitations affect its availability.


New report from USDA ERS on climate change, water scarcity

U.S. agriculture faces a changing production environment due to shifts in global climatic conditions. Climate models predict wide-ranging impacts on local temperature and precipitation patterns, with broad implications for crop yields, crop-water demand, water-supply availability, farmer livelihoods, and consumer welfare.