Soil Acidity Amelioration

Using Soil Amendments to Increase Soil pH and Improve Soil and Plant Health
A WSU Extension Workshop brought to you by The Farmer’s Network

February 21st, 2019 from 8:00am to 3:45pm at Banyans on the Ridge – Pullman, WA

Effect of Soil Acidity on Wheat Diseases
Soil acidity directly affects crops, pathogens, and mineral nutrition. Dr. Murray will describe what we know about the effect of soil pH on several soilborne wheat diseases. He will also discuss ways to mitigate the impacts of soil acidity and associated pathogens.  
Dr. Tim Murray – Professor and Extension Plant Pathologist: WSU Pullman

Advances in Liming and Root-Acid Soil Research
Anthropogenic soil acidification continues to be documented in the inland PNW. Novel liming approaches will be required to neutralize subsurface acidity. We are experimenting with organic-lime mixtures using locally available straw pulping, lignin-rich coproduct. He will share his high resolution imagery of crop root growth and dieback in amended and unamended acid soil.

Dr. Bill Pan – Professor, Scientist, and Extension Specialist in the Department of Crops and Soil Sciences: WSU Pullman

Stratified Soil Acidification In No-Till Systems
Stratified soil acidification in no-till systems is difficult to address because it can take many years for surface-applied lime to move to the acidified layer. WSU researchers have found an effective strategy to address this problem. Dr. Tao will present how mixing lime materials with lignin-containing black liquor can help move into and neutralize the acidified zone.

Dr. Haiying Tao – Assistant Professor and Nutrient Management Specialist in the Department of Crops and Soil Sciences: WSU Pullman

How Does Your Wheat Grow?
Dr. Carter will report the extent of soil acidification issues from his soil survey and work with over 30 on-farm research trials conducted in Columbia County. The presentation will focus on the relationship between soil acidity and liming effects on essential soil nutrient interactions, and crop deficiency symptoms as well as agronomic effects. Paul will introduce best practices for measuring pH in the field and talk about opportunities for future work.

Dr. Paul Carter –Associate Professor and County Extension Director for WSU in Columbia County

This workshop is eligible for 7 CCA credits. -- Please see the Farmer’s Network website or contact Carol McFarland: carol.mcfarland@wsu.edu or Haiying Tao at haiying.tao@wsu.edu for more information.
Soil pH and Microbes – How pH Affects Who’s There and What They Do

Soil pH has a strong influence on the microbial community. In this presentation Dr. Carpenter-Boggs will discuss the role of microbes in soil health and functioning. The presentation will focus on how soil microbial communities and activities change as soil pH decreases, and how this influences soil fertility, health, and functioning.

*Dr. Lynne Carpenter-Boggs – Professor in the Department of Crops and Soil Sciences: WSU Pullman*

Liming Exercise: Agronomic Strategy and Economic Risk and Return Assessment

This interactive session will provide an opportunity to build and share knowledge within the audience on the topic of soil pH by discussing and sharing ideas for management approaches to various case studies.

*Carol McFarland: Research Associate in Cropping Systems, in the Department of Crop and Soil Science at WSU, Pullman*

Doug Finkelnburg: Area Extension Educator, Cropping Systems with the University of Idaho in Nez Perce County

Soil Acidity and Liming: In the Field

Dr. Schroeder will discuss the results from his years of working with multiple lime products in on-farm liming trials around the Palouse region. The presentation will include the implications for management of various crop types and varieties.

*Dr. Kurt Schroeder: Assistant Professor and Cropping Systems Agronomist at University of Idaho, Moscow*

Soil’s Influence on Herbicide Persistence, Activity, and Movement

Soil characteristics such as texture, organic matter, CEC, and pH can effect herbicide activity, effectiveness, and persistence. Soil properties should be considered when determining herbicide rates, application timing and placement, varieties, and herbicide plantback restriction. Knowing individual field soil types and history can help prevent potential problems.

*Rachel Zuger: Research Associate in Weed Science in the Department of Crop and Soil Science at Washington State University, Pullman*

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