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?

Barley Yellow Dwarf Virus Epidemic in Idaho Winter Cereals

An update from Juliet Marshall, Cereal Cropping Systems Agronomist and Pathologist, University of Idaho, Aberdeen Research & Extension Center

Our winter wheat and winter barley crops have broken dormancy very early - I’d say we are 3 - 4 weeks ahead of “average” and almost all of our spring wheat is planted.

About 3 weeks ago, we started having symptoms of BYD showing in winter cereal fields. Two times in the last two weeks, I have taken a tour through the southern part of the state. In most areas, 85-95% of our winter wheat fields are showing 95-100% incidence. Some are severe, and growers are removing (spraying and plowing) some of these fields and replanting spring grain or dry beans. Growth stages are tillering to jointing.

Contributing factors include unusual rains last August, high populations of aphids in the fall (especially in the corn that was green chopped), a long fall, and we have had one of the warmest winters / earliest springs on record. Full rates of insecticidal seed treatments have been ineffective due to a long warm fall and high aphid populations.

Dr. Arash Rashed and I have been wiring very hard to obtain ELISA and qPCR confirmation before sending out too many alerts to the growers. I did send an alert March 16th, but didn’t want to do another until we had proof positive - double - that what we were seeing was totally accurate. It is so widespread that even I was questioning myself. It is EVERYWHERE - from Parma to Idaho Falls and Ririe.

We also have severe drought conditions, which makes mitigation more difficult and damage potentially more severe. Many growers will not be able to apply irrigation for another 1-3 weeks.

We have virus in wheat, barley, timothy and field borders, roadsides, ditch banks, and farmyard grasses. I expect greater than 30% losses, in some fields greater than 60% losses. Winter malt barley fields will not make malt. Many winter wheat fields will have to go for feed.
Barley Yellow Dwarf Virus Reports in SW Idaho

Several winter wheat samples brought in to the University of Idaho’s Parma Research & Extension Center by growers and crop advisors this spring were diagnosed with Barley Yellow Dwarf Virus. The classic symptoms like stunted plants and yellow/red leaf tips were observed. Most of the later seeded fields are not infected, but the infection is widespread in those fields seeded early last fall.

THE UNITED NATIONS HAS DECLARED 2015
THE INTERNATIONAL YEAR OF SOILS

“to increase awareness & understanding
of the profound importance of soil
for human life”

The Soil Science Society of America
and members are providing free resources on these themes:
- Soils Sustain Life
- Soils Support Urban Life
- Soils Support Agriculture
- Soils Clean and Capture Water
- Soils Support Buildings/Infrastructure
- Soils Support Recreation
- Soils are Living
- Soils Support Health
- Soils Protect the Natural Environment
- Soils and the Products We Use
- Soils and Climate
- Soils, Culture, and People

Available at: soils.org/iys

Resources include:
Videos | Stickers | Coloring Book | Posters

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GUEST CONTRIBUTION

Soil Acidity in North Idaho Soils

By Doug Finkelnburg, Extension Educator, Area Cropping Systems, Nez Perce County, University of Idaho

Doug Finkelnburg has been working for the University of Idaho in different capacities since 2007. Most recently, he’s been conducting research and extension efforts as an Area Extension Educator focusing on cropping systems in north central Idaho counties. Before that, he worked for UI’s Plants, Soils, and Entomological Sciences department as a research support scientist. There, he conducted grain and grain-legume variety testing and briefly coordinated Northern Idaho’s soft white winter wheat breeding program. After growing up in Boise and Pocatello, Doug attended the University of Idaho where he received Bachelor’s and Master’s degrees in Environmental Science. Current areas of research and extension efforts include mitigating acid soils, cover crop adoption, and new rotation opportunities in wheat based cropping systems.

Northern Idaho agricultural soils are becoming more acidic. Decades of fertilizer use have caused topsoil pH’s to drop sharply from slightly acidic pre-break out levels (historic pH’s 6-7). This increase in acidity has potential consequences for our agricultural systems we can’t afford to ignore.

A number of negative things happen when soil pH’s drop, especially below pH 5.5. Some soil based fungal diseases become more common. Some commonly used herbicides are active longer than they are supposed to be and others don’t work as well in these acid conditions. Many essential plant nutrients become less available as well. As fertilizer is used less efficiently, greater rates are needed - resulting in spending more for a similar return and speeding up the rate of soil acidification in the process! In very acidic soils, those with pH’s at or below 5, toxicity from metals like aluminum can result in poor root health or, in extreme cases, plant death.

Fortunately, many of our soils, especially our originally prairie soils, are well buffered. High buffering capacities in acid soils help decrease toxicity caused by metals. On the other hand, soils brought under production from cut-over timber or forest-prairie interfaces are less well buffered and likely to develop acidity problems sooner.

Our soil acidity situation is not unique. Much of the agriculture around the world occurs in naturally acidic soils and similar fertilizer inputs are widely available. What is different is that farmers in many of these places regularly apply agricultural lime, an acid neutralizing product.
In contrast, we’ve been slow to adopt regular liming or pH maintenance as a management strategy in the inland northwest. The reason is simple: cost.

Application of lime to research plots, Winchester, Idaho.

Transport is the biggest expense associated with lime application and regional producers do not have a multitude of cheap local sources as are found in the Midwest USA or much of Europe and elsewhere. Also, our well buffered soils have soaked up so much acidity at this point that many fields would require multiple tons of lime to neutralize the topsoil. Seeing the “lime requirement” recommendation on a soil test can be a shock - and a deterrent.

On-farm lime application research, Northern Idaho.
Photos by Doug Finkelnburg, Extension Educator, Area Cropping Systems, Nez Perce County, University of Idaho

Wait minute, wheat yields have been improving steadily across our region! This is true and all while pH’s have been dropping. Better agronomics, precision technology, improved crop protection products and plant genetics play large roles in keeping our yields going upward. However, wheat grows best in rotation with other crops and common rotation options like legumes (alfalfa, peas, lentils and garbanzos) are sensitive to acid soils. The more we let our soils acidify the fewer crops we can potentially grow, or grow well, and as a result production becomes a riskier activity.

What is being done? In Idaho, UI Research and Extension personnel are surveying Northern Idaho ag-fields to determine the extent of our topsoil acidification. We’re conducting on-farm research into the effects of liming rates, lime types, and methods of application. Studies are underway at UI-R&E centers, greenhouses and laboratories to determine how liming acid soils in our area affects nutrient use, plant diseases, and crop productivity. Results from these studies will be used to better model the costs and benefits of liming.

Moving forward we should keep an eye on our pH’s. Lost rotation opportunities, increased input costs, and more disease and weed pressure are the potential consequences of ignoring your soil’s acidity.

For more information on Idaho soils pH, please visit University of Idaho Extension, Landscapes & Gardens web site.
GETTING TO KNOW ID AG

Celebrating University of Idaho’s Extension professionals!

The Extension personnel’s leadership, educational and service was highlighted at the Annual University of Idaho Extension Conference, held in Boise, March 30 - April 2, 2015.

About UI Extension
University of Idaho Extension provides reliable, research-based education and information to help people, businesses, and communities solve problems, develop skills, and build a better future. Through our statewide network of faculty and staff in 42 counties and 12 research and extension centers, we work collaboratively with individuals, businesses, and communities to transform knowledge into solutions that work. We focus on contemporary topics that matter to you most, including small and large scale sustainable agriculture, home horticulture, natural resources, health and nutrition, food safety, personal financial management, youth development, and community development.

Extension is serving in the following areas vital to the well-being and prosperity of Idaho communities:

4-H Youth Development: 4-H prepares young people to step up to the challenges in their community and the world.

Community Development: Extension helps communities address challenges ranging from rapid population growth to economic and social changes.

Crop Production: Extension provides timely and local research-based information to help growers control pests, market products, and compare crop varieties.

Farm and Ranch Management: UI Extension helps agricultural producers improve marketing skills and understand risk management, skills essential to financial survival.

Food and Health: UI Extension health and nutrition experts help residents from youth to senior citizens learn about nutrition, food safety, and food preservation.

Forestry, Range and Water: UI Extension offers localized, research-based information to help residents manage family forests, protect air and water quality and accommodate many uses, including recreation.

Landscapes and Gardens: Get answers to your gardening questions at our Idaho Landscapes and Gardens web site. Our tips will help you create a healthy, attractive garden or landscape and keep it looking good throughout the season or year.

Livestock and Other Animals: UI Extension provides research-based education to help producers expand market opportunities, sustain profitability, and enhance animal care and welfare.

Personal Finance: Extension provides classes and educational resources to help families and individuals make wise financial decisions.

Small Acreage Farming: UI Extension provides education and guidance in the area of sustainable small farm management.

Please visit UI Extension web-site: