

Extension Connection

AGRICULTURE NEWSLETTER

November & December

2015

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Meet the Agriculture and Natural Resources Agent

Hello, my name is Katelyn Barthol. I am the Agricultural and Natural Resources Agent for Finney County. I grew up in Wellsville, Kansas, on a small family farm, which consisted of a Black Angus cattle herd, horses, swine, chickens, and a trusty red heeler. I started in the 4-H program at a young age. I showed horses, cattle, swine, competed in the livestock judging contests and participated in the buymanship competitions. During my 4-H career, I competed at the Kansas State Fair and Kansas Junior Livestock Show in the swine project. I recently graduated from Kansas State University with a Bachelor of Science in Agriculture. I majored in Agricultural Business and dual-minored in Animal Science and Agronomy. I am very excited to be here in Finney County. I am ready to answer any questions



you may have. My door is always open. Feel free to stop by, even if it's just to say hi!

Shout Out to the New PDC Members

It is that time of the year when the Extension Office elects new Program Development Committee (PDC) members. Program Development Committee members work together with Extension Agents to develop local programming. Working with agents, PDC members understand and promote the mission of K-State Research and Extension and serve their communities by completing the following tasks:

- Assess needs and issues of agricultural producers, communities, families, and youth.
- Identify new local audiences and develop a proactive plan to expand the scope of extension programming.
- Use K-State Research and Extension resources to meet local programming needs.
- Develop program action plans to address community needs and submit those plans to the Extension Board and Area Director for review and approval.
- Implement, participate in, and evaluate extension programs.
- Promote K-State Research and Extension program successes and impacts.

I am proud to announce the 2016 PDC members:

Agriculture and Natural Resources

Aaron Anderson	Alva Burch
Billy Myatt	Melvin Neufeld
Steve Michel	Wayne Goss

Family and Consumer Sciences

Beth Vondrak	Charlotte Bargdill
Rosemary Corbett	Sondra Simmons
Tessy Thykkuttathil	Tracy Johnson

4-H Youth and Development

Christine Lightner	Jennifer Jones
Jill George	Rebecca Price
Sara Schweer-Gleason	Tami Meng

Community Development

Connie Richmeier	Jeff Crist
Julie Tull	Keith Strasser
Lora Norquest	Patty Stapleton

Congratulations to this year's new PDC members and we look forward to working with you all.

Master Gardeners Program

Are you interesting in increasing your knowledge of plants, flowers, and other horticulture related items? Then the Extension Master Gardeners Program is



for you. The Extension Master Gardener (EMG) Program is an educational volunteer training program sponsored by K-State Research and Extension. Through this program, individuals are trained and certified in horticulture and related areas. These individuals, in turn, volunteer their expertise and services to help others through horticulture projects that benefit the community. Extension Master Gardeners become friends with many interesting and talented individuals. They share ideas with one another. Extension Master Gardeners never stop learning, but continue to grow in the knowledge of garden related issues. Being an Master Gardener volunteer is a fun, interesting, and rewarding experience. If you are interested in becoming an EMG, the next EMG training will be in Dodge City starting February 3, 2016 and will be every Wednesday ending March 30, 2016. If you have any questions regarding the Extension Master Gardeners, feel free to contact the Finney County Extension Office at 620-272-3670 or kbarth25@ksu.edu.

Pruning Shrubs

Recently, we have received a number of calls from gardeners wanting to cut back shrubs. Though light pruning and removal of dead



wood are fine this time of the year, severe pruning should be left until spring. Keep in mind that even light pruning of spring-blooming shrubs, such as lilac and forsythia, will reduce flowers for next year. It's recommend that spring-bloomers be pruned after flowering.

Shrubs differ in how severely they can be cut back. Junipers do not break bud from within the plant and therefore should be trimmed lightly if you wish to keep the full shape. Overgrown junipers should be removed. On the other hand, there are certain shrubs that can be pruned back severely during the spring. Rejuvenation is the most severe type of pruning and may be used on multi-stem shrubs that have become too large with too many old branches to justify saving the younger canes. All stems are cut back to 3 to 5 inch stubs. This works well for spirea, forsythia, pyracantha, ninebark, Russian almond, little leaf mock orange, shrub roses, and flowering quince. Just remember that spring is the correct time to do this, not now, (Ward Upham, KSRE Rapid Response Specialist).

Begin Rabbit Protection Now

Rabbits may begin to nibble on newly planted trees and shrubs this time of the year. Protect your investment through the winter with at least 2-foot-tall cylinders of 1-inch-mesh, chicken wire, or similar barrier. Other control methods include plastic tree wraps and liquid rabbit repellents sprayed on the plants. (Ward Upham, KSRE Rapid Response Specialist)



High pH Soils and What to Do With Them

Though there are high pH soils in most parts of the state, alkaline soils tend to be more common in the central and western regions of Kansas. These



high pH soils can cause problems for plants by reducing the availability of certain micro nutrients. For example, most Kansas soils have more than adequate amounts of iron. However, a high pH can make iron unavailable resulting in a condition called iron chlorosis. Iron chlorosis reduces the health of plants by reducing photosynthesis. Lowering the pH of such soils will eliminate iron chlorosis.

Now would be a good time to have a soil test done to see if your pH is too high. If so, sulfur can be added either now or in the spring to lower the pH. Different textures of soil require different amounts. A sandy soil needs 7 pounds of sulfur per 1,000 square feet to reduce pH one point. A loam soil needs 11 pounds and clay needs 17 pounds to do the same. For example, if you wished to lower pH from 8.5 to 6.5 on a loam soil, you would need 22 pounds of sulfur per 1,000 square feet.

So, what pH do we shoot for? For most plants, a pH between 6.0 and 7.0 is preferred.

Unfortunately, adding sulfur to lower pH is not as clear-cut of a solution as we would like. Here are some other factors to keep in mind:

Free calcium carbonate: Some soils have free calcium carbonate, actual particles of limestone mixed in the soil. These "calcareous" soils normally have a pH of 7.3 to 8.5, with 8.2 to 8.3 being most common. In order for us to lower the pH with sulfur, all free calcium carbonate must be neutralized first. A recent soil test showed 6.7 percent free calcium carbonate. One pound of sulfur is needed to neutralize three pounds of calcium carbonate. Assuming 80 pounds for a cubic foot of soil, you would need about 1.75 pounds of sulfur per square foot just to neutralize the free lime. Additional sulfur would be needed to lower pH. Adding this much sulfur to a soil at one time is not recommended.

Not all high pH soils are calcareous. Perform this simple test to see if your soil contains appreciable

amounts of free lime. Apply one drop of vinegar to dry soil. A vigorous fizz usually means the soil contains at least 3 percent calcium carbonate. A mild fizz suggests a calcium carbonate of between 1 and 2 percent and a fizz that can only be heard suggests the soil has a calcium carbonate content less than 1 percent.

How sulfur works: Elemental sulfur does not lower pH directly. It must first be oxidized to the sulfate form with the result being sulfuric acid. The sulfuric acid produces hydrogen, which acidifies the soil and lowers pH. The oxidation takes place primarily through microbial activity.

Oxidation takes time: Microbial oxidation of elemental sulfur takes time and depends on:

- number of sulfur oxidizing bacteria present
- temperature (75-104 degrees optimum)
- moisture content of soil (too wet or too dry will slow down process)
- size of sulfur particles (the smaller the better)

A single sulfur application normally takes at least 2 years for most of the sulfur to react and form sulfuric acid. This, of course, depends on the above factors.

So, what do you do about calcareous soils? See the companion article in this week's newsletter for specific recommendations. (Ward Upham, KSRE Rapid Response Specialist)

Iron Chlorosis and Calcareous Soils

Iron chlorosis due to high pH soils is a significant problem in Kansas. Though Kansas soils normally contain adequate amounts of iron, a high pH makes iron unavailable to the plant. Iron plays a major role in the production of chlorophyll. Thus, a lack of iron reduces the amount of chlorophyll and results in yellowing of leaves. Iron chlorosis weakens, and in severe cases, may kill a susceptible plant.

A popular recommendation for high pH soils is adding sulfur to lower pH. This works well for many soils, but not those that are calcareous. Calcareous soils are those that contain actual particles of calcium carbonate (limestone). Calcareous soils can be difficult to practically impossible to acidify because the sulfur must neutralize all the free limestone before the pH is affected long term. In many cases you would need well over a pound of sulfur per square foot just to neutralize the free lime.

So, what do you do? That depends on the situation. With vegetable gardens and annual flowerbeds, work products into the soil during the time of the year when there are no plants present. Oregon State University suggests mixing 5 pounds

of sulfur per 100 square feet into the soil before planting. The idea is to form little pockets of acidity that result in enough iron availability for the plants during the year of application. Note that this must be done each year. Another possibility is to use iron chelates. Iron chelates hold the iron in such a way that the plant can get to it. However, not all iron chelates will work in high pH soils. For soils with a pH over 7.2, use a chelate that contains FeEDDHA (Ethylene diamine-N,N bis(2hydroxyphenylacetic acid)). This can be found in the products Sequestar 6% Iron Chelate WDG, Sequestrene 138 and Millers FerriPlus. Chelates can either be mixed into the soil at planting or sprayed on the foliage early in the season. Reapply as needed. (Ward Upham, KSRE Rapid Response Specialist)

Up Coming Events

November:

26th: Thanksgiving Holiday
26th & 27th: Extension Office Closed

December:

7th: Extension Annual Meeting
24th & 25th: Christmas Holiday
28th- 31st: Extension Office Open

January:

1st: New Years Day
4th: Extension Office Open
6th: Calving School @ Kearny County
6th: Ag Profitability Conference @ Colby
14th: SW Area Corn School @ Garden City, Clarion Inn
15th: Friends on the Farm Program
16th: Honor Flight
18th: Extension Office Closed
26th: Leasing Workshop @ Scott County
27th: Leasing Workshop @ Kearny County
28th: Leasing Workshop @ Ford County