Reno County Extension

K-STATE Research and Extension Reno County

2 W 10th Ave
South Hutchinson KS 67505
620-662-2371
620-662-0313 (fax)
www.reno.ksu.edu

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IN THIS ISSUE:

Pamela Paulsen ppaulsen@ksu.edu
County Extension Agent - Horticulture

Darren Busick darrenbusick@ksu.edu
County Extension Agent - Agriculture

Jennifer Schroeder jenj@ksu.edu
County Extension Agent - Family & Consumer Sciences

Joan Krumme jkrumme@ksu.edu
County Extension Agent - 4-H

Jan Steen jmsteen@ksu.edu
County Extension Agent - Technology & Community Development
County Extension Director

AG NEWS

With

Ag Agent Darren Busick

Wheat streak mosaic: The importance of early control of volunteer in hailed-out wheat and other management options

The severe problems wheat producers had with wheat streak mosaic virus this year can be traced back in most cases to a lack of control of volunteer wheat – especially the volunteer wheat that got started early after widespread hail damage to wheat just before harvest in 2016. It is important to keep that from happening again. Where wheat has been hailed out this year, volunteer wheat control should start immediately.

Producers often like to wait several weeks after harvest before making their first herbicide application to control volunteer wheat. This allows as much volunteer as possible to emerge before spraying it or tilling it the first time. Often, a second application or tillage operation will be needed later in the summer to eliminate the green bridge to wheat by making sure all volunteer is dead within ½ mile of wheat being planted in the fall. Green bridge elimination can be more difficult to accomplish when wet weather prevails through late summer because this tends to keep a lot more alternate host plants alive during the critical period when mites are host-limited. As with most plant diseases, the earlier infection occurs, the more impact on the plant and the greater the yield loss, so infections of wheat in early growth stages in the fall are most damaging.

Where wheat was hailed out and volunteer has already emerged at the time of harvest, control should begin immediately after harvest if possible. This is true even for fields that got hailed out relatively early during grain filling, as wheat grain at soft dough or later stages of development already has the potential to germinate. Hailed out fields may require one more field pass than normal to control volunteer wheat, but will help prevent even bigger problems down the road. It should be noted that grazing volunteer is not an effective option because there is green wheat material left and the mites can be living in that material.

Why the need for early control of volunteer in hailed-out wheat? Where wheat suffered hail damage after heading, volunteer often emerges even before the existing field is harvested – as much as two to three weeks or more earlier than it would normally emerge after harvest. This volunteer wheat is especially likely to become infected with wheat curl mites and lead to problems later in the season if left uncontrolled.

Figure 1. Thick stand of volunteer wheat after wheat harvest. Photo by Stu Duncan, K-State Research and Extension.

Wheat curl mites will move off growing wheat as the green tissue dries down and dies. After moving off the existing wheat at or near harvest time, the mites need to find green tissue of a suitable host soon or they will die of desiccation.

Research has found that the mites can live quite a few hours off the plant, and up to 24 hours or more under low temperature conditions, so significant numbers of mites may be blown in from farther away than previously thought.

If there is young, volunteer wheat growing at the time the current wheat crop is being harvested in the nearby region, the mites can quickly infest those volunteer plants and survive.

If volunteer has emerged and is still alive shortly after harvest in hailed-out wheat, wheat curl mites could easily build up rapidly and spread to other volunteer wheat that emerges later in the season. On the other hand, if this early-emerging volunteer is controlled shortly after harvest, that will help greatly in breaking the green bridge. However, if more volunteer emerges during the summer, follow-up

control will still be needed.

Volunteer wheat is not the only host of the wheat curl mite. Over the years, multiple research studies have evaluated the suitability of wild grasses as hosts for both the curl mite and the wheat streak virus. There is considerable range in the ability of a grassy weed species to host the mite and the virus. Barnyardgrass is among the more suitable hosts for both virus and mites, but fortunately it is not that common in wheat fields. In contrast, various foxtails, although a rather poor host, could be an important disease reservoir simply because of their abundance. These grasses may play an important role in allowing the mites and virus to survive during the summer months particularly in the absence of volunteer wheat.

A new K-State Research and Extension publication, *Wheat Streak Mosaic* MF3383, is now available. This publication includes information about grassy weed hosts of the mite and virus, and the contribution of these grassy weed hosts to the risk of severe wheat streak mosaic infections. Take note of significant stands of these grasses in marginal areas and control them as you would volunteer wheat.

If volunteer wheat and other hosts are not controlled throughout the summer and are infested with wheat curl mites, the mites will survive until fall and could infest newly planted wheat at that time. Wheat curl mite infestations of wheat often lead to wheat streak mosaic infections.

Figure 2. Volunteer wheat on the edges of a sunflower field were infested with wheat curl mites and caused a wheat streak mosaic infection in the adjacent wheat crop that fall. Photo by Stu Duncan, K-State Research and Extension.

Figure 3. Closeup of wheat showing symptoms of a wheat streak mosaic virus infection in the fall. Photo by Jeanne Falk Jones, K-State Research and Extension.

Another tool producers can use to help control or reduce the impact of wheat streak mosaic is the use of varieties with resistance to the disease. There are currently three varieties adapted to Kansas that have wheat streak mosaic resistance:

Clara CL (white)
Joe (white)
Oakley CL (red)

All have the same resistance source (WSM2). Temperature sensitivity varies a bit among these, but all will tend to lose wheat streak mosaic resistance at high temperatures.

In addition, there are a handful of varieties with resistance to the wheat curl mite, including TAM 112, Byrd, Avery, and T158. These varieties are actually susceptible to the wheat streak mosaic virus itself, but since they have resistance to the wheat curl mite vector of the disease, they can escape the disease pressure in many cases -- depending on the severity of wheat curl mite pressure. Under light to moderate wheat curl mite pressure, these varieties held up relatively well this year against wheat streak mosaic infections. Under severe pressure, such as on fields adjacent to a field with volunteer wheat, these varieties did not generally hold up any better than other varieties that are susceptible to wheat streak mosaic.

J.P. Michaud, Entomologist, KSU Agricultural Research Center-Hays
jpmi@ksu.edu
Erick DeWolf, Extension Wheat Pathologist
dewolf1@ksu.edu
Romulo Lollato, Wheat and Forages Specialist
lollato@ksu.edu

GET THE *FACTS* FROM JENNIFER SCHROEDER, Family & Consumer Science Agent

Are All Fruits High in Acid?

When it comes to canning, foods are divided into two categories. Low acid foods have a pH 4.6 or above and high acid foods have a pH of 4.6 or below. In general, fruits fall into the high acid category. But, there are some exceptions.

Melons, including watermelon, honey dew and cantaloupe, are examples of low acid fruits. They have an average pH of 6.2. So, to can them, significant amounts of acid and sugar must be included to safely can them in a boiling water bath canner. In March of 2011, there was an outbreak of botulism linked to watermelon jelly sold in Canada.

So, it is important to choose recipes from trusted resources in all canning, and especially with low acid foods. A good recipe for Watermelon Jelly can be found in the Ball Complete Book of Home Preserving or at www.bernardin.ca/recipes/zesty-watermelon-jelly.htm?Lang=EN-US. Bernardin is the Canadian brand of Ball canning products.

Remember, while tomatoes are classified as a vegetable, they are botanically a fruit. Acid, either lemon juice, vinegar, or citric acid, must be added to tomatoes for safe canning. Details can be found at www.bookstore.ksre.ksu.edu/pubs/MF1185.PDF.

USDA to Relax School Meal Mandates

The U.S. Secretary of Agriculture has signed a proclamation to restore local control in school lunch programs in the whole grains, sodium, and milk guidelines.

Schools are finding that many kids throw these foods away. While the schools may be compliant with the menu, the reality is the food is wasted. There has also been a decrease in student participation in school lunches. This reduces revenue and increased costs.

Giving back local control allows states and schools flexibility and more appealing meals for students.

Read more at:
www.usda.gov/media/press-releases/2017/05/01/ag-secretary-perdue-moves-make-school-meals-great-again

The Scoop on Kitchen Sponges

Kitchen sponges are notorious for trapping food particles which can lead to bacterial growth. This can lead to cross contamination and foodborne illness.

In a recent study, researchers evaluated polyurethane foam sponges and cellulous sponges and different treatments to help clean and sanitize them. The polyurethane foam sponges disinfected with chlorine reduced pathogenic *E. coli* up to almost 90%. Cellulose sponges reduced chlorine levels by 24% after 30 minutes of soaking. This reduces the effectiveness of disinfection. Total numbers of bacteria and E. coli were less in both antimicrobial polyurethane sponges and regular polyurethane sponges.

Bottom line, if using sponges, try polyurethane types, keep them disinfected, and replace them often.

Food Protection Trends, Vol 37, No. 3. p. 170-175

New Way to Pasteurize Eggs

Out of all eggs sold in the U.S., only three percent are pasteurized. By pasteurizing eggs, this could reduce illnesses from *Salmonella.* Currently, egg pasteurization is done by immersing them in hot water and the process adds about $1.50 per dozen eggs. This method can lead to egg whites denaturing and coagulating.

Researchers at the USDA Agricultural Research Service have developed a new way to pasteurize eggs using radio frequency (RF) technology. This gets more heat into the yolk instead of the white. It is faster which can reduce costs. This technology is already being used to reduce pathogens in almonds, spices, wheat flour, and other foods. Results from this research showed a reduced pathogen level by 99.999 percent. This is comparable to the current hot water treatment. The entire process takes 23 minutes, which is three times faster than the hot water treatment.

Read more at https://agresearchmag.ars.usda.gov/2017/apr/egg

Color Change in Red Meat

It's likely you've seen it. You take a steak out of the package and you see brown or discolored spots. It is still safe to eat?

As long as the meat was kept cold and is not past its best-by date, most likely, it is safe to eat. If it smells, that indicates temperature abuse and some kind of bacterial growth. If it smells like good meat, it is safe. Cook it using a meat thermometer for best safety.

Color Changes in Red Meat

The color change is due to oxidation. This turns the red meat color to brown. Meat color is controlled by the protein myoglobin. Within myoglobin is iron. When iron loses an electron, the color changes from red to brown. That brown protein is metmyoglobin.

Oxidation occurs in several situations. Those situations include lack of oxygen, storage time, the presence of salts and marinades, freezing, and yes, bacterial growth.

http://momatthemeatcounter.blogspot.com/

Grill with the Right Tools!

Grab the tongs, platters, spatulas, and don't forget a food thermometer! Taking the temperature of food is the safest way to check for doneness. The best types of thermometers for grilling are digital instant-read thermometers or the thermometer-fork combination. Both read temperature in less than 10 seconds. Insert it into the thickest part of the food, but work well for thin foods too.

Learn more at www.fightbac.org/grill-master/

Plan Now For Summer Canning

Prepare now for the upcoming canning season. It's frustrating to get fresh produce in the kitchen and then find out you will have to run to the store for new lids, or you forgot to get your pressure canner gauge checked. Make your to-do list early and be prepared when the produce is ready for picking and preserving.

Check your canning jars for nicks and cracks. Jars should be cleaned before canning. Make sure you have an adequate supply of canning lids. Canning lids should never be reused. The sealing compound or gasket is intended for one-time use only. Once purchased, the gasket in an unused lid should work for at least five years.

Get your pressure canner dial gauge checked for accuracy. Pressure canners with a dial gauge should be checked for accuracy every year. This is very important as the safety of your canned foods depend on being processed at the correct amount of pressure. It is also important to time the canning process after venting the canner. You can have your dial gauge tested for free in the Reno County Extension Office.

Use research-based canning recipes. Always follow an up-to-date tested recipe from a reliable source. This is perhaps the most important step in preparing for home food preservation. Research based recipes can be found by contacting Reno County Extension Office, the National Center for Home Food Preservation, or the USDA Complete Guide to Home Canning. Cookbooks and old family recipes are not reliable sources of tested recipes that meet current food safety recommendations. If you want to check the safety of a recipe you preserve with, contact Jennifer Schroeder at the Reno County Extension Office for more information. Planning ahead, checking your equipment, and purchasing what you will need, will ensure you have a safe and successful canning season.

Who is at Risk for Elder Abuse?

Elder abuse is an intentional act, or failure to act, that causes or is likely to cause harm to an adult. The six most common categories of elder abuse are physical, emotional or psychological, sexual, neglect, abandonment, and financial/exploitation. Often a silent problem, elder abuse can rob older adults of their dignity and security and leave them feeling fearful, depressed, and alone. Sadly, 10 percent of Americans over the age of 60 have experienced some form of elder abuse in the last year, and many researchers expect this number to rise with the growth of the aging population. Elder abuse can happen to anyone — all individuals regardless of sex, race, ethnicity, income, or religion can be victims of abuse. However, those who are female, very elderly, socially isolated, have mental impairment (such as dementia), or are prior victims of abuse, particularly domestic abuse, are more likely to be victimized.

Download Elder Abuse and Neglect: What You Should Know from the K-State Research and Extension bookstore at https:// www.bookstore.ksre.k-state.edu/pubs/ MF3343.pdf to learn more.

COMMUNITY
BITS AND BYTES WITH JAN STEEN

Thank You!
In January 2012 I started working for K-State Research & Extension here in the Reno County office as a Community Development and Technology agent. Since that time, I've helped people with community improvement programs, business marketing, food access, weather safety, and all matters of technology assistance and programs from smart phones to computers, and Facebook to genealogy databases. Along the way I also took on the responsibilities of director, and the budget and administrative duties that go with that position. My passion has always been to help people, and I thank you all for trusting me, and trusting the rest of our K-State Research & Extension office when you've needed help and information. It has been an amazing experience!

Starting July 3, I will be transferring to a new position with K-State Research & Extension working at the state level, and my last day in the Reno County office will be June 30. Again, thank you all for your trust over the years. I look forward to working with you, and your communities again soon!

Meeting with your legislator: 10 tips to help you prepare for your meeting
From Roxanne Turner, Michigan State University Extension
Meeting with representatives and senators isn't something everyone does on a regular basis, but you should try to find the time to meet the individuals that represent you. It can be a nerve-racking experience meeting with someone in these positions, but it doesn't have to be. Taking time to prepare will alleviate stress and help you get the most out of your meeting.

1. Remember, they are just people.
They are no different than you, your parent, your neighbor or a person who lives in your community. They most likely lived or live in your community and that is why they chose to represent you. Therefore, they already share common ground with you.

2. Do your research.
Know what committees they serve on, what political party they represent, their background and what positions they generally take on issues. Doing this will help you understand who they are as a person as well as put together a brief greeting or presentation of your concerns. In addition, they will appreciate you know a little about them and that will help build rapport.

3. Plan your meeting.
If you are scheduling a meeting with your representative or senator, then you will most likely work through their office staff to set that up. Let the office staff know if you want a meet-and-greet or if you want to talk about a specific concern. If you want to talk about a concern, give them details on what that concern is so it can be researched before the meeting.
Let the office staff know if you can come to their capitol office to meet or if you prefer a meeting in the district. District meetings will be a little more difficult for some areas, but are possible. Often, legislators have "coffee hours" in the district when anyone can speak with them.
Remember to ask for enough time for the meeting; they have a very limited amount of time, but you don't want to be too brief.

4. Practice your speech in advance.
If this is a planned meeting, you have more time to prepare and can have a list of points you would like to make. If it is going to be a quick meeting where you might have planned a way to bump into them, then have a concise speech prepared you can give in a couple minutes or less, often referred to as an elevator speech. However, try not to let your speech sound rehearsed, as you want to be as natural as possible.

5. Introduce yourself properly.
When greeting your legislator, shake their hand firmly, introduce yourself and let them know where you live and what group you represent, if applicable.

6. Share your story.
Don't just tell them about the program or group you represent or the issue or concern you have—tell them your story. Explain why the issue is important to you and how you feel it affects you and your community. Connect your story to something you know about them from your research. Your personal opinion matters, yet be sure to differentiate when you are sharing your opinion or facts. You do not need to have a list of facts to share with them at all. It is completely acceptable to share your opinion or personal story and leave it to them to do the research.

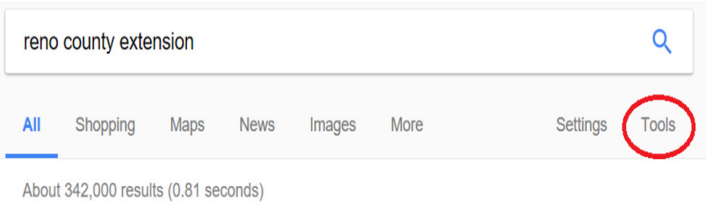
7. Ask about them.
Find out who they are and why they have chosen to represent your community in this capacity. Find out what they like about the position and what challenges they face.
This is a great way to get to know them, and if you do not have a concern to share but just want to meet them, then it's important to give them the opportunity to share.

8. Thank them for meeting with you.
Thank them and offer a way for them to reach you. Once you have met with them, be sure to give an opportunity for follow-up. This may be an email, phone number, business card or address.

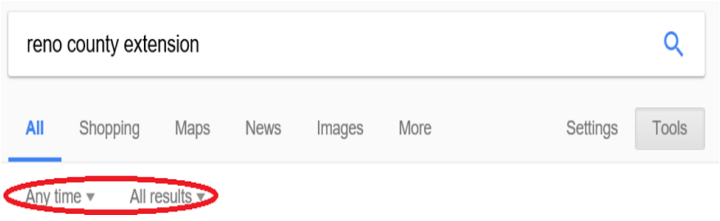
9. Follow up.
Be sure to follow up, even if they do not, with a letter or email after your visit and quickly recap the points made during your interaction. This will help remind them of the concerns you raised, the questions you wanted follow up on, or just remind them of who you are for future interactions.

10. Share your interaction.
Share your experience with others to help them be prepared to meet their legislator. Once you have used some of these tips and experienced meeting with your legislator, you will see it was pretty easy. Sharing this experience for others can make their experience much less stressful as well. You may also consider sharing a picture with the legislator (with permission) on social media and tagging them.

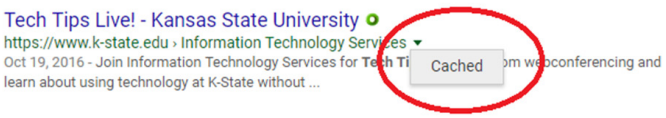
Sorting Search Results
If you use the Google search engine you can sort your search results using the "Tools" button. Normally, your search results would show up listing how many results you have, how long it took Google to return those results to you, then the pages Google feels are most relevant to your



search.
When you click the "Tools" button after you perform your search, the number of results is replaced with two options: "Any time" and "All results".



From here you can sort your results by time frame if you click on the "Any time" drop down menu. You will be given options to show website results that have been created or updated in the last hour, 24 hours, year, or you can select your own custom range. If you only want to show search results that were created or updated between January 2017 and July 2017, the custom range option is the place to go.
By clicking on the "All results" drop down menu, you can choose between all results Google has presented, or "Verbatim", or exactly how you typed your search query.
Should any of the results you click on be pages that no longer work, or come up with information that isn't really what the summary of the result says it is, you can click on the down arrow next to



the result's address and choose "Cached". This will bring up a recent working version of the page you're looking for.

GET GROWING with Pam Paulsen, Horticulture Agent