

FLOODING, MOSQUITOES, AND WEST NILE VIRUS*by Dr. Richard Houseman, Entomologist, University of Missouri*

Since mosquitoes breed in standing, stagnant water, recent flooding along the Missouri River has resulted in expanded mosquito breeding habitats and subsequent mosquito population explosions. It has also led to concern about the potential for increased transmission of West Nile Virus (WNV) within bird and mammal populations. WNV life cycle is intimately linked with birds, which amplify the virus when infected, thus allowing mosquitoes who feed on them to acquire sufficient virus to transmit. Mammals are infected but do not amplify the virus and so are considered dead-end hosts. Humans and horses are some of the most notable mammals affected by WNV.

While it is true that mosquito populations have increased in flooded areas during 2011, the threat of WNV transmission is not necessarily elevated because the types of mosquitoes associated with flooding are not the same as those associated with transmitting WNV. The most common floodwater species throughout Missouri is *Aedes vexans* while the most common WNV vectors are *Aedes albopictus*, *Culex tarsalis*, and *Culex pipiens*. The abundance of these different species also varies hugely, with the floodwater species being many times more abundant than the vector species, even during normal years where there is average flooding.

Recent surveys in central Missouri during an entire summer using traps at 12 different locations collected over 65,000 *Aedes vexans* mosquitoes (floodwater species). During the same time period and at the same locations only about 750 mosquitoes were collected from the three combined vector species. This represents a ratio of about 99:1 floodwater to vector mosquitoes collected over an entire summer in an average year. In a flood year, where mosquito trap collections are 3-5 times higher than normal, the ratio of floodwater to vector mosquitoes could easily increase to over 400:1. Laboratory screening of over 30,000 individual mosquitoes from St. Louis County this summer found only 6 mosquitoes that were positive for WNV. These surveys seem to indicate that the threat of WNV can remain low despite large increases in the number of mosquitoes associated with floodwater.

The floodwater species *Aedes vexans* gets its name because it is such an aggressive, persistent, and 'vexing'

biter. It feeds on mammals, including humans, and is most active from early evening until midnight. It lays its eggs on the soil just above standing water and they withstand drought, cold, and rain for up to four years. It is only when eggs are flooded and floating in water with reduced oxygen levels (caused by decaying organic matter) that they hatch into larvae called 'wigglers' whose density can reach 5,000 to 20,000 per square foot of surface area.

The vector species *Aedes albopictus*, *Culex tarsalis*, and *Culex pipiens* vary in their biology and behavior. All three species feed on birds in addition to mammals, which enables them to acquire WNV from birds and transmit it to humans or horses. They lay their eggs in a wide variety of standing water situations that are encountered in and around our homes and other buildings. To reduce populations of these vector mosquitoes, eliminate standing water around your home and neighborhood by emptying water from old cans, buckets, birdbaths, tires, potted plants, clogged gutters, etc.

While it is good news that the risk of WNV remains low despite increased mosquito populations associated with recent flooding, do not become complacent. Seek to eliminate mosquito breeding habitats and treat standing water that is not able to be eliminated or drained. Products called mosquito 'dunks' or 'donuts' kill mosquito larvae and are placed in standing water where larvae are found. These products contain a bacterium called *Bt* and are non-toxic to humans.

Reduce your risk of being bitten by keeping windows and doors closed, staying inside during dusk and dawn, and by wearing long sleeves/pants and using repellents if outside. Many repellent products are shown to repel mosquitoes, but are usually effective for less than one hour. Products containing DEET usually provide protection for up to 4 hours. It is not necessary to apply products with more than 35% DEET concentration since they do not provide any additional repellency or longevity. Use lower DEET concentrations on children.

Horses have a much higher incidence of death than humans following infection and must be protected from WNV even during an average year. A vaccine has been developed for protecting horses. See a licensed veterinarian for more information about the vaccine.

FLOODING CONCERNS FOR LIVESTOCK AND POULTRY OWNERS

by Shawn Deering, *Livestock Specialist*

Most of our region had plenty of warning that the flooding was eminent and farmers were able to move equipment, grain, and livestock to safe areas. Common hazards to livestock associated with flooding and the aftermath would include: contaminated water and feed, standing/stagnant water, mosquitoes, sharp objects transported into pastures, damaged fencing and gates, and weakened barns and other structures.

Livestock may refuse to consume forages in areas contaminated by flood water because of palatability issues. Be sure to provide other feedstuffs until pastures are cleansed by rains. Beware of feeding moldy feed and hay to livestock. If moldy feeds have to be used, producers should first test for mycotoxins. These are especially problematic for young and pregnant animals. Another concern is the potential contamination of feedstuffs from materials such as petroleum tanks, chemical storage facilities, etc.

Blackleg, anthrax, malignant edema, tetanus, foot rot, mastitis, botulism, brooder pneumonia,

and erysipelas can occur more than normal when flood waters expose animals to microorganisms and injury threats that are not normally found in safe pastures.

Last, but certainly not least is to remember to protect yourself. Some animal diseases are transmissible to humans. Even small cuts or scrapes could potentially result in serious disease. Very young, very old, or persons with impaired immune function would be the most susceptible.



UNEVEN CORN HEIGHTS HAVE GROWERS' ATTENTION

by Wayne Flanary, *Agronomy Specialist*

Corn of different heights can be found within many area corn fields causing growers to question what might be taking place. "In general, the difference in corn heights within fields is caused by different emergence timings," says Wayne Flanary, Regional Agronomist, University of Missouri Extension.

The next question is why is there different emergence timings? In general, early planted corn fields have even stands. As soils became drier with late planting, some seed was not placed in moisture and emergence was delayed until rain occurred. These areas within fields have plants, but are smaller. Looking across the row from a distance, it seems there is not a sufficient corn stand. However, when you walk to the site, the plants are smaller and are hard to see from a distance.

There are other reasons for delay. Spring application of ammonia also can stunt plants. Plants will not germinate where the row unit passes over the ammonia track and the roots will have a dark brown appearance looking as if they were burned. In general, there will be a pattern to the injury if the ammonia application was run at a slight angle to planting. The areas within back-sides of terraces also seem affected in counties near the Missouri River.

The planter unit may have not placed the seed into the

bottom of the furrow trench leaving seed in drier soils.

Also, some corn fields have shallow planting depths. Seed was placed into moisture in most of the field but there were areas in which the planter unit placed the seed shallow into dry soil.

There are also uneven stands due to other issues such as insect injury. Insect injury can be identified by the insect in the soil or look for the feeding injury site in plants.

Pythium and other emergence diseases can also lessen the stand. Look for missing plants or plants that died as they emerged.

The primary root system that emerges from the seed if damaged can stunt plants. However, as the permanent root system establishes itself from the crown, the corn plant will establish itself and continue to grow.

Another issue to watch for is crop nutrient deficiencies. Several fields have exhibited potash deficiencies and in these situations, growers have not been applying enough nutrients to keep up with those removed from grain harvested.

For more information, contact Wayne Flanary at (660) 446-3724 or Heather Benedict at (660) 425-6434, Regional Agronomists, University of Missouri Extension.

APPLYING CORN FUNGICIDES

by Wayne Flanary, Agronomy Specialist

Foliar fungicides are being applied to corn for plant health and the promotion of increased yield. For fungicides to provide consistent yield benefits, fungal foliar diseases must be present. The primary diseases in northwest Missouri is gray leaf spot and rust.

Disease pressure is important in making a decision to apply a fungicide. If a corn hybrid has an abundant amount of disease, the increased probability is that a fungicide application will make a return on investment. However, we have also found that different corn hybrids vary in their ability to respond to a foliar fungicide application. This may explain why there is a difference in yield data from University research compared to industry foliar fungicide trials.

Also, a fungicide only controls fungal diseases, not bacteria or other pathogens. It is important for growers to identify common diseases for their farm and focus on them when determining the disease pressure within their corn fields.

If diseases are being found in your corn fields, check the susceptibility level of your corn hybrid to that particular disease. Your seed company will have

a resistance rating of the hybrid to the disease. If it is resistant to the specific disease, the fungicide application will generally not pay. Examine the field for multiple diseases and estimate where the disease is located on the plant and how much of the leaf area is affected. Again, review company literature for resistance ratings.

If you have corn following corn, then you are at a higher risk than following soybean. Gray leaf spot increases when corn is planted after corn.

Rainy and humid weather is also favorable for disease development. A long period of wet weather will increase the chance for further development of disease.

Research from University of Illinois indicates that if 15% of the ear leaf area is affected by disease at the end of season, then a foliar fungicide applied between VT and R1 would likely have been beneficial.

For more information, contact Wayne Flanary at (660) 446-3724 or Heather Benedict at (660) 425-6434, Regional Agronomists, University of Missouri Extension.

CENTIPEDES

by Tim Baker, Horticulture Specialist

Every summer, I get calls from homeowners who are finding large populations of multi-legged crawling "worms". These turn out to be centipedes, which can plague an area with enough numbers to literally fill up buckets. Unfortunately, some of these pests can find ways to enter your home.

Centipedes are not true insects, but are found in the class Chilopoda, closely related to the class Diplopoda which includes their millipede cousins. Centipedes are flattened, elongated animals, with many body segments. Each segment has a pair of legs. The specimens which have been brought to me for identification are reddish brown in color.

Millipedes, while having a similar appearance, have two pairs of legs per body segment. So far, all the occurrences that I have dealt with have been centipedes, not millipedes.

Centipedes can range in size from an inch up to six inches. Fortunately, the complaints that I have received have been about the one inch variety.

With centipedes, their first pair of legs have been modified into venomous fangs, and are right below the mouth. They use these fangs to kill small insects for food. The smaller species of centipedes are not capable of penetrating human skin, so bites would be

rare. Larger species, however, can inflict painful bites.

Centipedes like damp areas with rotting wood and organic matter. These conditions are found in a forest, and most of my complaints come from people who have houses near or surrounded by forested areas.

Guide sheets typically call for removal of rotting wood, vegetation, and excessive moisture. This can be done around the foundation of your house and in your yard, but nearby forests may be difficult to work with.

There are insecticides that will kill centipedes. If they manage to get inside your home, be sure to use an insecticide that is approved for indoor use, if you choose to use one.

Spraying them outdoors is easier, but while many of my homeowners have found insecticides that do a good job of killing centipedes, they find that there seems to be a never-ending supply of new ones to replace the ones they have eliminated. And if their home is next to a forested area, it is going to be a tough battle.

If you are plagued with centipedes give your local Extension Center a call and ask for our guide sheet: Sowbugs, Pillbugs, Millipedes and Centipedes. You can read about their biology, and get a few hints on how to deal with them.

TWO UNCOMMON TOMATO DISEASES FOUND IN NORTHWEST MISSOURI

by Tim Baker, Horticulture Specialist

In 2007, I ran a seven part series of columns on growing tomatoes. Those columns are still available on my web site at <http://extension.missouri.edu/nwregion/hort/newspaper.shtml> if you want to read them. One of those columns focused on common diseases that we expect to encounter in Missouri tomatoes. Some diseases, like early blight, are almost a certainty if you want to grow a tomato in Missouri.

My column was not an exhaustive list of every disease known to infect tomatoes. There are many tomato diseases, most of which are fortunately not seen very often, at least in my experience. That would include most of the tomato diseases caused by viruses.

This summer, however, I have seen two out-of-the-ordinary tomato diseases which are somewhat interesting. They are interesting because the plants are being grown on sites which had not been planted in tomatoes before.

The first disease that I discovered was southern blight. In my entire Extension career, I can only recall one other time that I have encountered this disease, and that was many years ago, when I was still working down in the Bootheel. It just doesn't seem to be that common.

Southern Blight is caused by a fungus, and attacks the tomato's main stem right at the soil line, causing the growth of white mold. This eventually kills the

plant. It can be soil-borne, but in this case, since tomatoes have never been grown there before, it's possible that it may have come in on the transplants. Fortunately, it was not taking out the entire greenhouse. Hopefully, it won't.

The other disease is a bacterial disease. We occasionally see bacterial spot or bacterial speck, which can destroy the quality of the fruit. In this situation, the grower had a case of bacterial canker. Unfortunately, he had high losses. This is another one that I haven't encountered very often.

In this case, the grower was not in a greenhouse, but in a field. This was another one of those interesting situations... the field had never been planted in tomatoes. Again, it's possible that it could have come in on the transplants.

But in both cases, the transplants may not be at fault. Both diseases have a wide range of hosts, and it's possible that nearby weeds were harboring these diseases.

Unfortunately, in both cases, treatment will be difficult. Spraying a fungicide for southern blight is not effective, and a copper spray, normally used for bacterial diseases, is usually not very effective against bacterial canker. Crop rotation will be important for future years in both cases.



2011 Hundley - Whaley Field Day

Wednesday, August 24, 2011, 9:00 a.m. - 1:00 p.m.

University of Missouri
HUNDLEY - WHALEY RESEARCH CENTER
660-726-5610 or 660-726-3698 www.aes.missouri.edu/hundwhal

Directions: From Hwy. 85 (also called N. Hundley St or Business Rt. 136) in Albany, turn South to Bethany St., go West on Bethany to Birch St., The farm is at the junction of Bethany and Birch.

- New Herbicides for Corn and Soybeans
- Handling Glyphosate Resistant Weeds
- Sources of Biofuels on the Farm,
- Legumes vs. Nitrogen Use in Fescue Hay and Pastures
- Sulfur and other micronutrient needs in corn
- Crabgrass as a forage alternative
- Lime in corn and soybeans does pay
- Population and Fertility Interactions on Corn Hybrid Yields
- Enhancing Phosphorus availability in corn.

Lunch provided

EXTENSION IS PROUD TO INTRODUCE CONNIE NEAL

by Connie Neal, Housing and Environmental Design Specialist

I am the Housing and Environmental Design Specialist for the Northwest Region. I will be headquartered in Grundy County but will serve 15 counties providing research based information as it pertains to housing issues in the communities that I serve. I also serve on an Energy Management Team as well as a regional Community Emergency Management Program team.

Prior to this position, I had taught for 19 years, preschool to graduate students. I taught at Central High School in St. Joseph, Mo, North Kansas City High School and Northwest Missouri State University. While at North Kansas City, I had extensive experience with Universal Design combining my housing and interior design program with the Building Trades program. In the later years, we built Universal Design homes exclusively. I have had my own interior consulting business for 20 years.

For this first year, I will be attending various orientations and trainings. I recently completed the Healthy Homes Practitioner. The various programs that I will be working with include Rent Smart, Healthy Homes, First Time Home Buyers, A Matter of Balance as well as various other projects to include indoor air quality issues, Universal Design, Energy Management, MAESTRO, Green Design, Sustainable Design, and weatherization.

A little background history:

I grew up in Southwest Iowa on a farm. I am a graduate of Northwest Missouri State University with a B.S. in Vocational Home Economics with emphasis in Housing and Interiors. My master's degree is from the University of Missouri, Kansas City in Curriculum and Instruction with additional graduate classes at University of Missouri, Columbia, Baker University and Iowa State University.



I am married to my husband, Larry for almost 43 years. Larry has been with Hy-Vee for 44 years. We live near Maryville. We have two grown children, a son, Kevin and wife Patty and they are parents of four of our grandsons. Our daughter, Nicole and husband Mike are the parents of our other two grandchildren, a boy and a girl. I am an "out of control" grandmother and have no plans to change.

As a Family and Consumer Sciences educator, I am excited to be a part of yet another facet of my discipline. I look forward to the many things that I can learn and share in an effort to help others through Extension.

MISSOURI HONORED AS AN OUTSTANDING INSTITUTIONAL TEAM

by Terry Meisenbach

eXtension honored the Institutional Teams at **Michigan State University** and the **University of Missouri** for outstanding work in advocating for and integrating eXtension into their respective institutions. The Be Grow Create awards were presented for the first time ever at the 2011 National CoP Workshop in Louisville, KY June 29.

Outstanding teams are recognized for planning, creativity, organized activities, web conference attendance, director interaction, and institutional engagement.

The University of Missouri Institutional Team has at its heart a solid plan to engage, enrich, and promote eXtension. Every member has an assignment he or she willingly accepts and reports on. They participate locally and nationally in Institutional Team meetings; report regularly to their administration and have established a set of standards documenting the

scholarship of eXtension for the University of Missouri. Growth in eXtension IDs is great...but what is even more important is that this team has increased active participation in other aspects of eXtension, including CoP leadership and membership and Ask an Expert. They are all about engagement.

To quote their nominator: "The Missouri Institutional Team has excelled at planning strategies, creative activities and approaches. They have organized activities to successfully promote eXtension resulting in an engaged faculty and staff. We are pleased that the Team is actively engaged in learning and sharing to support eXtension goals and outcomes."

This team is hard working, dedicated and in a word—outstanding. Meridith Berry, Northwest Regional Information Technology Specialist, is a member of the Missouri Institutional Team.

WHY START A BUSINESS DURING A RECESSION?

by Tom Kelso, Business Development Specialist

Money is tight. People are saving. Unemployment is up. Sales are down. Why would anyone start a business with all of this going on? The truth is, a recession is a great time to start a business. Some people go into business during a recession out of necessity. Big businesses are not hiring during a recession and the household still needs a regular paycheck. Others see it as an opportunity. They have had this idea in the back of their mind that has been developing and evolving. Now they have lots of time and no excuses not to bring it into fruition. In fact, one out of four white collar workers over 40 who lost their jobs during the recession of 1989 to 1993 started a business. Over half of the corporations which make up the Dow Jones Industrial Average were started during a recession.

The steps to go through when forming a business (recession, or not) are the same. Eight of the top ten reasons businesses fail are due to poor planning. The first thing you should do is sit down and critically evaluate your business idea. Ask yourself: what product or service you will be selling? Who would buy it? Why would they buy it? Why would they buy it from you rather than someone else? Where are you going to offer this product or service, and how will anyone know you are in business? In other words: how are you going to market it?

What are your potential competitors doing? (All businesses have competitors. If you are going to start the only bowling alley in town, your competitors will be the movie theatre and the skating rink.) How has the recession affected them? How has the recession affected the industry? Some necessary products and services are unaffected by recession. Some products and services are purchased more during a recession in order to save money. Don't rely on anecdotal information. Secret shop your potential competitors. Do they have more business than they can handle? Or, contact a Business Development Specialist at your Extension office. They can tell you if there is a surplus or a demand for that product or service in the market area you describe to them.

The work it takes to gather all of this information will not be "wasted." Not only will it help you decide if the business idea you have is a good one at this time and in this location, it will also be used when putting together your business plan. Much of the work will already be done.

Money has been tight during this recession. Largely due to the housing bubble which greatly

deflated the portfolios of banks when it popped. However, the loan to asset ratios of several banks have begun to stabilize and for the last three or four months these banks have been looking for good projects in which to invest. This, along with the Small Business Administration increasing their loan guarantees from 75% to 90%, makes it a good time to go to a bank to get the financing needed to start that business.

A recession can create a need for new or additional products and services. A recession will also weed out businesses which are not managed well, making room for new start-ups to fill that void. The percentage of businesses which succeed is virtually the same for those which start during a recession as it is for those which start during prosperous times. Do you have an idea for a business? Have thought through the above questions? Have you considered the cost of starting this business and the method with which you will finance it? If you have done all of these things and the only reason you are not moving ahead is because the economy is in a recession, you may want to add more weight to the point that this is good timing for you and your family and not wait for the economy.



SAFE MEAT COOKING TEMPERATURES LOWERED — FEWER NUMBERS TO REMEMBER

by Janet Hackert, Nutrition and Health Education Specialist

In a May, 2011, news release, the U.S. Department of Agriculture (USDA) announced that their research has shown that pork cooked to a lower temperature and held for a specified amount of time results in as safe a product as with a previously higher recommended cooking temperature. This new recommendation also means that there are fewer numbers to remember when cooking meats safely.

USDA now says that pork steaks, roasts, and chops should be cooked to 145°F, the same recommendation as for all other whole red meats, including beef, veal and lamb. The temperature should be measured using a meat thermometer, inserting the part of the thermometer that registers the temperature into the thickest part of the meat.

With the new lower temperature comes a new requirement, one that is easy to comply with. Once the pork or whole red meat reaches the internal temperature of 145°F, it should “rest” for three minutes. This is accomplished by removing the meat from the grill, oven or stove and letting it sit. During this time, the temperature of the meat stays constant or it may continue to rise. Researchers at USDA’s Food Safety and Inspection Service have found that this

process results in the same safe product as bringing the internal temperature to 160°F with no rest time, as was previously recommended. Either way, the meat has reached the temperature and time needed to destroy any illness-causing microorganisms that may be present on the meat.

Because ground meat has greater surface area and is more exposed to contamination during processing, the recommended safe cooking temperature for ground beef, lamb or pork remains at 160°F. ALL poultry should be cooked to an internal temperature, measured by a food thermometer, of 165°F. Neither ground meat nor poultry require a rest time after reaching their safe temperature.

So it all boils down to three numbers, easy to remember: cook whole meats to 145°F (with a three minute rest time), ground meat to 160°F, and poultry to 165°F.

For more information on the latest recommendations, go to the Food Safety and Inspection Service web site at http://www.fsis.usda.gov/News_&_Events/NR_052411_01/index.asp or contact Janet Hackert, Regional Nutrition Specialist, at (660) 425-6434.

CANNED GREEN BEANS REQUIRE TEMPERATURES ONLY REACHED WITH PRESSURE

by Janet Hackert, Nutrition and Health Education Specialist

Canning produce safely requires making it safe in the first place, then keeping it safe by sealing the jar. Low acid foods like green beans and other vegetables require a temperature that is only attained by adding pressure. So the only recommended safe way to can vegetables is with a pressure canner.

The health concern with home canned produce is botulism. This silent enemy cannot be seen, smelled or tasted in canned products. But when it is present, it causes a very deadly type of food poisoning that shows up within 72 hours of eating the contaminated food. Symptoms of botulism range from upset stomach (sometimes mistaken as the flu) to paralysis or even death.

Clostridium botulinum is the microorganism that causes botulism. It is a spore former, which means that under certain conditions the microorganism forms a protective structure called a spore. This spore then germinates and forms a toxin in the food stored at room temperature, which causes the food poisoning.

This whole process can be prevented by pressure canning. To destroy the botulism and its spores in low

acid foods, the foods must be heated through and through to 240 degrees Fahrenheit. Water boils at 212° F at sea level. So the only way to reach the temperature needed to make vegetables safe is by using pressure. The pressure in the canner increases the temperature of the water and steam inside the canner, thus making it possible to increase the temperature of the food to the safe level. No amount of boiling a food at 212°F will make that food hot enough to make it safe.

The US Department of Agriculture research labs have carefully studied what it takes to make all the food in a jar reach the necessary temperature. Their recommendations include very precise directions for pressure and time of processing. They also include the type of food, the form of the food and the size of the jar.

For more information on canning vegetables safely, contact Janet Hackert, at (660) 425-6434, or contact your local University of Missouri Extension office, or go to <http://extension.missouri.edu> for the publication called *How to Can Vegetables*, GH 1454.

COME TO THE FAIR!

Mark your calendar for the Missouri State Fair: **It's A Show-Me Thing!** taking place August 11 to 21 in Sedalia.

Prepare to be entertained by the best show-offs in the state, including livestock and competitive exhibitors. The State Fair is Missouri's largest agricultural expo, and consists of 396 acres and 15 buildings.

Visit mostatefair.com for a listing of all the events, as well as information and pricings.

Tickets are available through www.ticketmaster.com, www.mostatefair.com, or by calling (800) 496-6776. Tickets are also available at the Fairgrounds Box Office.

The 2011 Missouri State Fair will be the premier summer event of the year you don't want to miss!



2011 STATE SHOOTING TEAM TRYOUTS

by Gerry Snapp

Six of nine state teams will be selected this fall and winter for the national 4-H Shooting Sports Invitational March to be held in June 2012 in Grand Island, Nebraska. Any 4-H Shooting Sports member who is in good standing with their county program, and at least 14 years of age may be a team member. Most of the state teams have multiple try-out dates. Each team has a unique process and unique pre-registration due date, so read carefully.

Smallbore Rifle and Muzzleloading team selection begins with the State Shoot.

For more details and registration forms check the website: <http://4h.missouri.edu/go/projects/shootingsports/contest.htm>



4-H DAY WITH THE TIGERS



Saturday, September 3, 2011
Faurot Field, Columbia, Missouri
Game Time: 11:00 am

4-H members, volunteers, alumni and their families are invited to join the excitement of Missouri Tigers Football! This will be the Mizzou home opener for the 2011 season ... don't miss it!

Tickets are only \$20 each – discounted for 4-H from the regular price of \$47. To receive the discount, you must use the special Ticket Order Form found at <http://mo4h.missouri.edu/events/tigers/docs/tigersorderform.pdf>

There's more... All who order a 4-H Day with the Tigers T-shirt for \$8 each will be eligible to walk in the parade around the infield of Faurot Field approximately one hour before the game. The big message board will play a special video salute to Missouri 4-H during the parade. One dollar will be donated to the Missouri 4-H Kids Helping Kids Joplin Relief Fund for each t-shirt ordered.

Tickets

Ticket orders must be mailed to Mizzou Arena – **Group Sales** and are **due by Friday, August 19**. Note that 4-H groups who want to sit together at the game must purchase tickets using one order form for the entire group.

T-shirts

T-Shirt orders are separate and optional. All t-shirt orders must be mailed to Boone County MU Extension and are due by Tuesday, August 16.

For questions about ticket or t-shirt orders, contact Jim Ronald at ronaldj@missouri.edu.

4-H Day with the Tigers is hosted by Boone County and Mizzou 4-H

JULY 16TH PONY EXPRESS SHOOTOUT RESULTS

Archery

Jr. Compound Release

1. Hannah Persell, Harrison
2. Zackery Donelson, Clinton
3. Hannah Carlton, Nodaway

Jr. Compound Finger

1. Maddison Thompson, Nodaway
2. Treinton Head, Clinton

Jr. Curve

1. Sydney Orton, Clinton

Youth Release

1. Daniel Carlton, Clinton
2. Conner Young, Andrew
3. Matthew Carlton, Clinton

Sr. Compound Release

1. Taylor Orton, Clinton
2. Janice Bartlett, Harrison
3. Austin Pulley, Nodaway

Sr. Compound Finger

1. Jessica Gunderson, Daviess

Airpistol

Junior

1. Jensen Mayes, Clinton
2. Emily Creasy, Harrison

Senior

1. Steven Brown, Clinton
2. Gretchen Mayes, Clinton

Shotgun

Junior

1. Garrett Donoho, Livingston
2. Ethan Coleman, Harrison
3. Conrad Morris, Andrew

Senior

1. Steven Brown, Clinton
2. Hayden Crockett, Buchanan
3. Jenice Bartlett, Harrison

Rifle-Open Sight

Youth

1. Alex Smith, Andrew

Junior

1. Zackery Donelson, Clinton
2. Garrett Donoho, Livingston
3. Trevor Burrows, Harrison

Senior

1. Amy Johnson, Harrison

BB

Youth

1. Caden Morris, Andrew

Junior

1. Tana Anderson, Clinton
2. Treinton Head, Clinton
3. Kari Haleigh, Clinton



REGIONAL PROGRAM & ACTIVITY CALENDAR

AUGUST 2011

-
- 4 Nodaway County Food Preservation**, Thursday, August 4, 5:30 pm to 7:30 pm, Nodaway County Extension Center, 403 N. Market, Room 308, Maryville. This class will cover the basics of home food preservation including canning using boiling water and a pressure canner, drying, and freezing. No cost and open to the public. Please call (660) 582-8101 or email wilmesk@missouri.edu by August 3 to RSVP for the class.
-
- 5 Basic Computer Course**, Friday Aug. 5, 9:30 am to noon, ABCD Career Center, 301 South 7th Street, St. Joseph. This session focuses on the basic functions of the XP operating system. Students will learn basic navigation, file management, and operational tasks. Students will have a chance to set up an email account and navigate the Career Center web page. Facilitated by Meridith Berry. No cost. Register through the Career Center at (816) 387-9675.
-
- 10 Word for Beginners**, Wednesday August 10, 1:30 pm to 4 pm, ABCD Career Center, 301 South 7th Street, St. Joseph. Word for beginners will cover the interface of Word 2007, the formatting tools, and inserting graphics and tables. Facilitated by Meridith Berry. No cost. Register through the Career Center at (816) 387-9675.
-
- 11 Eat Well Be Well with Diabetes Nodaway County (Session 1 of 4)**, Thursdays, August 11 to September 1, 6 pm to 8 pm, Nodaway County Extension Center, 403 N. Market, Room 308, Maryville. Come learn more about how to manage diabetes using good nutrition. Get information and tips on the ABCs of diabetes, how to communicate with healthcare providers, dealing with the emotions of having diabetes, signs and symptoms of high and low blood sugar, and the natural course of diabetes. Taste and take home new recipes. Cost \$25.00 (\$40.00 for family of two). Participants may register by calling the Nodaway County Extension Center at 660-582-8101 or email wilmesk@missouri.edu
-
- 23 Graves-Chapple Farm Field Day**, Tuesday, August 23, 8 pm to 3 pm, Graves-Chapple Farm, east side of I-29 at the foot of the bluffs just north of Corning, MO. Twenty-third annual field day. Topics will cover the pressing issues facing the agricultural producer at the time with an emphasis on environmental quality, stewardship and profitability. No cost. For information, contact James Crawford at (660) 744-6231 or crawfordj@missouri.edu
-
- 24 Hundley-Whaley Field Day**, Wednesday, Aug. 24, 9:00 AM – 1:00 PM. Albany, MO. From Hwy. 85 (also called N. Hundley St or Business Rt. 136) in Albany, turn South to Bethany St., go West on Bethany to Birch St., The farm is at the junction of Bethany and Birch. Topics include New Herbicides for Corn and Soybeans, Handling Glyphosate Resistant Weeds, Sources of Biofuels on the Farm, Legumes vs. Nitrogen Use in Fescue Hay and Pastures, Sulfur and other micronutrient needs in corn, Crabgrass as a forage alternative, Lime in corn and soybeans does pay, Population and Fertility Interactions on Corn Hybrid Yields, Enhancing Phosphorus availability in corn. Lunch provided. No cost.
www.aes.missouri.edu/hundwhal
-
- 25 Understanding Financial Statements**, Thursday, August 25, 9 am to noon, Buchanan County Extension Office, 4125 Mitchell Avenue, St. Joseph. During this course, you will learn how to identify information that is captured on the income statement and balance sheet. Registration deadline: 8/25/2011, cost is \$59.00. Contact Holt County Extension Office at (660) 446-3724 or Tom Kelso at kelsot@missouri.edu
-

SEPTEMBER 2011

-
- 7 Winning Government Contracts: The First Steps**, Wednesday, September 7, 1 pm to 4 pm, Buchanan County Extension Office, 4125 Mitchell Avenue, St. Joseph. Gain the knowledge and skills necessary to propel your business into the realm of government contracting. Learn about required registrations, the different agencies and their buying practices, and how to effectively market your business to get the winning edge in contract bidding. Cost is \$50.00. Please register in advance by contacting the Buchanan County Extension office at (816) 279-1691 or Clint Dougherty at doughertycb@missouri.edu
-
- 8 The Basics of Writing a Business Plan**, Thursday, September 8, 9 am to noon, Buchanan County Extension Office, 4125 Mitchell Avenue, St. Joseph. This class is designed for business owners and managers who need to know how to create a business plan to be used as a management tool. Participants will learn the key elements of a business plan and get tips on writing style. Registration deadline: 9/8/2011, cost is \$35.00. Contact Holt County Extension Office at (660) 446-3724 or Tom Kelso at kelsot@missouri.edu
-
- 15 Starting a Business: The First Steps**, Thursday, September 15, 9 am to noon, Buchanan County Extension Office, 4125 Mitchell Avenue, St. Joseph. This class will provide the critical first steps of starting a business. Registration deadline: 9/15/2011, cost is \$35.00. Contact Holt County Extension Office at (660) 446-3724 or Tom Kelso at kelsot@missouri.edu
-
- 29 Marketing-Other**, Thursday, September 29, 9:00 am to noon, Buchanan County Extension Office, 4125 Mitchell Avenue, St. Joseph. Educational offering to assist small businesses in their marketing and decision making. Covers various marketing ideas and concepts to help business owners make clear, education decisions with their marketing efforts. Cost \$35.00. For information, contact Tom Kelso at (660) 446-3724 or kelsot@missouri.edu
-

NORTHWEST REGION EXTENSION SPECIALISTS

<u>REGIONAL DIRECTOR</u>		<i>Regional Administrative Associate</i>	
Karma Metzgar, St. Joseph	(816) 279-6064	Jill Knadler, St. Joseph	(816) 279-6064
<u>HUMAN ENVIRONMENTAL SCIENCES</u>			
<i>Family Financial Education</i>		<i>Nutrition & Health Education</i>	
Rebecca J. Travnichek, Savannah	(816) 324-3147	Janet Hackert, Bethany	(660) 425-6434
		Kelli Wilmes, Maryville	(660) 582-8101
<i>Housing and Environmental Design</i>		<i>Nutrition Program Associates</i>	
Connie Neal, Trenton	(660) 359-4040	Connie Griffith, Maryville	(660) 562-2011
		Debbie Herrold, Maryville	(660) 582-8101
<i>Human Development</i>		Tracy Minnis, Maryville	(660) 582-8101
Don L. Miller, St. Joseph	(816) 279-1691	Connie Mowrer, Maryville	(660) 582-8101
Jessica Trussell, Chillicothe	(660) 646-0811	Angie Rhoad, Maryville	(660) 582-8101
		Gina Ripley, Maryville	(660) 582-8101
<i>Family Nutrition Education Program Manager</i>		Sue Robison, Maryville	(660) 582-8101
Sara Brooke, Maryville	(660) 582-8101	Stephanie Weddle, Maryville	(660) 582-8101
<u>BUSINESS DEVELOPMENT AND PROCUREMENT</u>			
Clint Dougherty, PTAC, St. Joseph	(816) 279-1691	Tom Kelso, Oregon	(660) 446-3724
<u>COMMUNITY DEVELOPMENT</u>			
Jerry Baker, Rock Port	(660) 744-6231	Beverly Maltsberger, St. Joseph	(816) 279-1691
Wilson Majee, Princeton	(660) 748-3315		
<u>AGRICULTURE</u>			
<i>Ag Business</i>		<i>Livestock</i>	
Randa Doty, Maryville	(660) 582-8101	Shawn Deering, Albany	(660) 726-5610
Kevin Hansen, Chillicothe	(660) 646-0811	Jim Humphrey, Savannah	(816) 324-3147
Bob Kelly, St. Joseph	(816) 279-1691	Amie Schleicher, Rock Port	(660) 744-6231
<i>Agronomy</i>		<i>Horticulture</i>	
Heather Benedict, Bethany	(660) 425-6434	Tim Baker, Gallatin	(660) 663-3232
Wayne Flanary, Oregon	(660) 446-3724	Tom Fowler, St. Joseph	(816) 279-1691
<i>Natural Resource Engineering (Graves-Chapple Superintendent)</i>			
Jim Crawford, Rock Port	(660) 744-6231		
<u>4-H YOUTH DEVELOPMENT</u>			
<i>Specialists</i>			
Debbie Davis (Clinton, DeKalb, Caldwell)	(816) 539-3765	Becky Simpson (Davies, Harrison, Gentry)	(660) 663-3232
Annette Deering (Nodaway, Worth, Atchison)	(660) 582-8101	Ron Walker (Buchanan, Andrew, Holt)	(816) 279-1691
Shaun Murphy (Livingston, Mercer, Grundy)	(660) 646-0811		
<i>(Bolded county name indicates headquartered county.)</i>			
<i>Youth Program Assistants or Associates</i>			
Lisa Delameter (Mercer, Grundy)	(660) 748-3313	Julie Schmitt (Buchanan)	(816) 279-1691
Dale Hunsburger (Clinton, DeKalb, Caldwell)	(888) 449-2201(x 704)	Rick Smith (Buchanan 4-H LIFE)	(660) 646-0811
Teresa Kurtz (Holt, Atchison)	(660) 446-3724	Kari Stock (Harrison)	(660) 425-6434
Karla Parman (Worth)	(660) 564-3363	Carol Williams (Andrew)	(816) 324-3147
Elizabeth Richards (Livingston Reunification)	(660) 646-0811	Pat Wood (Livingston)	(660) 646-0811
Janet Sager (Gentry)	(660) 726-5610		
<u>HUNDLEY WHALEY SUPERINTENDENT</u>			
Bruce Burdick, Albany	(660) 726-3698		
<u>INFORMATION TECHNOLOGY</u>			
Meridith Berry, St. Joseph	(816) 279-1691		
<u>NEWSLETTER EDITORS</u>		Toll-Free Numbers: DeKalb County (888) 449-2101	
Meridith Berry & Bob Kelly, St. Joseph			
<u>LAYOUT DESIGNER</u>			
Nicole Arn, St. Joseph			

Northwest Region's Small Business & Technology Development Centers

Northwest Missouri State University, Maryville

SBTDC Regional Office

Dr. Frank Veeman

(660) 562-1701

St. Joseph Satellite Office

Rebecca Evans

(816) 364-4105

Chillicothe Satellite Office

Steve Holt

(660) 646-6920

FEATURE ARTICLES INSIDE THIS ISSUE:

Human Environmental Sciences & Internet Technology

Extension is Proud to Introduce Connie Neal

Missouri Honored as an Outstanding Institutional Team

Why Start a Business During a Recession?

Safe Meat Cooking Temperatures Lowered-Fewer Numbers to Remember

Canned Green Beans Require Temperatures Only Reached with Pressure

Agriculture & Livestock

Flooding Concerns for Livestock and Poultry Owners

Agronomy, Horticulture, & Entomology

Flooding, Mosquitoes, and West Nile Virus

Uneven Corn Heights Have Growers' Attention

Applying Corn Fungicides

Centipedes

Two Uncommon Tomato Diseases Found in Northwest Missouri

4-H Youth Development

Come to the Fair!

2011 State Shooting Team Tryouts

4-H Day with the Tigers

Pony Express Shootout Results

Regional Program & Activity Calendar

Northwest Region Extension Specialists & Staff

This is a publication that combines topics on Human Environmental Sciences, Horticulture, Agriculture, 4-H Youth Development, Business Development, and Community Development. It is published by extension specialists for individuals and families living in Northwest Missouri. Your local county extension council provides funding for this newsletter.

If you have received this newsletter in error or no longer wish to continue receiving it, contact Buchanan County Extension at (816) 279-1691.

Disclaimer: Special endorsement of products mentioned in this newsletter is not intended, nor is criticism implied of similar products not mentioned.

UNIVERSITY OF MISSOURI
 Extension

**NORTHWEST MISSOURI
EXTENSION**

**NEWS
YOU CAN USE**

University of Missouri Extension
Buchanan County
4125 Mitchell Avenue
St. Joseph, MO 64507

NON-PROFIT
U.S. POSTAGE
PAID
ST. JOSEPH, MO
PERMIT# 2212

Contact the Buchanan County
Extension Center at
(816) 279-1691 or your local
extension office to have your name
added to or removed from this
mail list.