Ok, I’ll admit it. I’m fascinated by astronomy and I’m really excited about the upcoming total solar eclipse on August 21st.

Occasionally, I still run into someone who hasn’t heard about it. If you’re in the latter category, be forewarned… the sun is going to disappear behind the moon for about 2½ minutes a little after 1:00 PM on that hot summer afternoon.

We are, of course, hoping for clear weather. There’s a pretty good chance for that in late August.

The path of the eclipse enters Missouri at St. Joseph, runs between Columbia and Jefferson City, and tracks further to the southeast leaving our state around Ste. Genevieve.

The path of totality is roughly 70 miles wide as it tracks across Missouri. If you live outside that path, you will get a partial solar eclipse, as the moon covers the sun… but not the entire sun.

Where the eclipse is total, the moon will cover the entire sun, giving us a spectacular show. You will be able to see the Sun’s corona. Even some stars. Those who have seen a total solar eclipse tell us it’s an amazing show.

I would emphasize, however, that you must have proper eye protection to view the partial stages. Even a short instant of attempting to view the partial eclipse could result in permanent eye damage. Don’t take a chance! Make sure that you have approved solar eclipse glasses. Sunglasses won’t help, and using them could still damage your eyes.

There are many excellent web sites about the solar eclipse. I have provided links to many of them on my web site. Look at http://extension.missouri.edu/nwhort/solar.aspx
Dicamba damaged soybeans: what to know

By: Andy Luke, Regional Agronomist

In the past month, several calls have come in to The University of Missouri Extension from growers in the area whose soybean fields are showing symptoms of dicamba damage. While we cannot always be sure where the dicamba came from or why the dicamba moved off-target, we can help assess the damage. Many of the questions we get are answered below.

What does dicamba damage look like? Once dicamba enters the soybean, it moves to the meristematic, or growing regions, of the plant. Therefore, symptoms of dicamba damage will be most obvious on the new growth. The most noticeable symptom will be cupped or puckered leaves with a shortened midvein that gives the leaf a “drawstring” effect. Once a leaf becomes cupped, it will remain damaged throughout the season. The stem and petioles of the plant may also twist. Under high exposure rates, callus formations may form on the stem while the hypocotyl will become swollen and brittle. If exposed to dicamba in the reproductive stage, soybeans pods can be malformed or aborted. Soybeans with dicamba damage will be stunted and shorter than plants in unaffected areas.

What should I be looking for? Symptoms of dicamba damage can take 10-14 days after exposure to show up in damaged fields. The first thing to look at is the new growth. Because it travels to the meristematic regions, the newest trifoliates will continue to be cupped if dicamba remains in the plant. Also, look at the highest node on the plant and determine if the apical meristem has been killed by checking for any new trifoliates or buds. In the vegetative stage, damage to the apical meristem will cause the soybean to put on new branches lower in the canopy. Look for pod damage in the reproductive stage. This will often be in the form of pods with the ends twisted or curled.

How will this affect my yields? Unfortunately, there is no way to know how much yield will be lost until the combines are in the field. Soybean yield will be most affected by the stage of the soybean at exposure and the rate of dicamba it was exposed to. Researchers have proven that soybeans exposed to dicamba in the vegetative growth stage have a greater ability to recover and yield similar to unaffected areas of the field than soybeans that are exposed to dicamba after flowering. This is because at an early growth stage, soybeans can put on new branches and leaves lower in the canopy to make up for some of the lost growth at the top of the plant. In the reproductive stage, the soybean is focused on putting on and filling pods, so any damage during this time directly affects its yield capabilities. Growing conditions for the rest of the season can also impact yield response. Research has shown that soybeans exposed to dicamba are more likely to suffer yield losses if they are drought-stressed after exposure. Although soybeans have an amazing ability to recover from damage or stress, yield loss from dicamba damage is likely.

What now? If you have soybeans that are showing dicamba damage, the most important step is communication with your neighbors. Most applicators carry pesticide applicator insurance that will help cover losses from off-target movement of an herbicide. In many instances, applicators are willing to file a claim with their insurance once they learn that they have caused damage to a neighbor’s crop. A friendly conversation will not only help with neighbor relations, but it may help recover yield losses.

For more information, contact Andy Luke at 660-425-6434, Extension Agronomist, University of Missouri Extension.

Clockwise from top left: (1) Soybean leaves cupped from dicamba damage. (2) Apical meristem damage as a result of dicamba. (3) Malformed pods due to dicamba exposure in the reproductive growth stage. (4) Stem and petiole twisting from dicamba.
**Missouri ABLE Accounts Now Open**  
*By: Meridith Berry, Family Financial Specialist*

In December 2014, the US Congress passed the A Better Life Experience (ABLE) Act enabling people living with a disability the opportunity to start saving money without losing eligibility for benefit programs such as SSI, SSDI, and Medicaid. Funds are for use to maintain health, independence, and quality of life. This past April, Missouri joined the ranks of nineteen other states and launched a Missouri sponsored ABLE plan (STABLE). Unlike a savings or checking account, the money in a STABLE account is invested according to the owner’s risk tolerance. The investment income is tax exempt when spent on qualifying expenses. The other tax advantage in Missouri is the deduction allowed for funding the STABLE account, much like a 529 college savings account.

Prior to this legislation building even a modest savings would disqualify people from SSI, SSDI and Medicaid. “Essentially, people with disabilities were forced to live in poverty”, said Andrew Dziedzic, Policy Coordinator for the Missouri State Treasurer’s Office. There was no way to save money for expenses not covered by Medicaid such as dentures or hearing aids without losing other benefits.

To be eligible for a STABLE account, the individual must have developed the disability prior to their 26th birthday. Accounts open with a $50 minimum deposit and are available for individuals at any age. An individual can have only one account. When setting up the online account, the individual or guardian will certify the disability. Currently, there is a deposit maximum of $14,000 per year per account. Opening an account is free; however, there is a maintenance fee for this account, and possible investment fees depending on the investment options chosen.

The benefits of this account include the Missouri $8,000 tax deduction ($16,000 for married couple filing jointly), tax-exempt earnings, and exemption of STABLE assets for the means test for SSI, SSDI and Medicaid. The qualified expenses can include any medical, housing, legal, or other expenses that enhance the life of the person with a disability.

Improvements to this law are currently in Congress. The changes include expanding the age of disability onset to 46, increasing the maximum deposits by allowing individuals who work to save up to the federal poverty rate (currently $11,770) into the plan, and allowing a 529 college savings account to roll into an ABLE account.

“Groups like the National Down Syndrome Society have called the ABLE legislation the most significant legislation for the disability community since the ADA passed in the early 1990s”, Dziedzic. As with any investment, there are risks and benefits that should be weighed prior to committing money to the account. The STABLE accounts are one option to insure quality of life for people living with disabilities. If you want to find out more about the Missouri STABLE accounts, go to [https://www.moable.com](https://www.moable.com) or contact Meridith Berry, Family Financial Education Specialist for MU Extension at berrym@missouri.edu or 660-359-4040 ext 248.

**Graves-Chapple Research Center Filed Day**  
*By: Jim Crawford, Natural Resource Engineering Specialist*

Breakfast: 7:30 a.m. Tours Begin: 8 a.m.  
Last Tour Leaves: 11:15 a.m. Lunch: Noon  
Free and open to the public!  
The situation with off-target movement of dicamba in Missouri: Where do we go from here?  
• Why the introduction of dicamba-tolerant crops is different from Roundup and Liberty  
• Herbicide injury: Liability and insurance concerns  
• Current and future corn and soybean insect issues  
• Corn streaks, spots, blights, blotch and rust: Don’t get caught with your plants down  
• Nitrogen application timing and rates when faced with a tight budget

**Address for use in GPS:**  
29955 Outer Road Fairfax, MO 64446  
**Directions (from the south):**  
3 miles north of Corning, Mo., on I-29  
Take exit 99 to the East Outer Road  
Q&A after lunch with Kevin Bradley, MU Extension weed specialist, to answer producer questions about dicamba. For more information contact Jim Crawford, Natural Resource Engineering Specialist and Graves-Chapple Research Superintendent [crawfordj@missouri.edu](mailto:crawfordj@missouri.edu) or 660-744-6231.
Armyworm Injury Continues

By Wayne Flanary, Regional Agronomist

Much of the armyworm damage has occurred in counties that have pastureland. There are several resources at the University of Missouri Extension website, which can help you with the identification and understanding of this pest. These resources can be found at https://ipm.missouri.edu/IPCM/.

The phone has been ringing regarding armyworm damage. Many calls have been received from counties in northwest Missouri. Growers should actively scout grass pastures for this pest.

Scouting is best conducted late in evening or early morning because the worms typically feed at night. Worms will attack grass pastures, winter wheat and corn.

Armyworm attack and defoliate grass plants. There are two to three generations per year with most damage occurring from this pest in May and June.

Larvae feed for 3 to 4 weeks, however, eighty percent of the damage occurs during the last 5 days of larval feeding. When all food is consumed, the larvae will move to a different site giving the appearance of moving in hordes.

During the day, larvae will be curled up under the ground litter in pastures during the day. Economic threshold is four worms per square foot in pasture.

In pastures, there are insecticide products which labels indicate that animals do not have to be removed from the area of insecticide application. These are safe insecticides or would not have this labeling. In addition, some insecticides are less expensive but may not provide level of control desired. Check with your local dealer and ask for their experience.

Be sure to use a sufficient amount of water as carrier also to get good coverage of the insecticide to the worm. Dense grass canopies may hinder insecticide reaching the larvae. Also, larger worms are harder to control than smaller worms. If possible, spray as dusk or night may provide better control as worms will be on plants and will be more likely to encounter the insecticide.

For more information, contact Wayne Flanary, Regional Agronomist, at 660-446-3724, University of Missouri Extension.

Corn Stand Loss

By Wayne Flanary, Regional Agronomist

The perfect corn stand emerges and then you scout again and corn plants are dying or missing. After emergence, this is the stage when the plant is transitioning from the being dependent on the seed to establishing roots and capturing sunlight. Our corn is past this stage but looking at many fields, I have seen many problems that occurred during this time.

The swings in temperature led to many fields with corn seedlings turning a yellow color this spring. The corn plant was running out of the seed’s energy before the nodal roots were established. The plants were starving and needed heat and sunshine.

During this transition, the plant is weakened and susceptible to stresses. This can lead to many problems. For example, planting in wet soils resulted in poor establishment of root systems. I noticed many dead plants in wheel tracks that were in the fields.

In addition, saturated soil conditions affected corn growth. Plants, if they survive in wet field areas, are slower to grow and emerge later than the surrounding field. Also, plants may have corkscrewed mesocotyls. The plants unfurl underground and do not emerge.

Be sure to scout fields and identify issues that affected your stands. Watch for pests. Weed control issues are of greatest concern now.

For more information, contact Wayne Flanary, Regional Agronomist at 660-446-3724, University of Missouri Extension.
**PIN OAKS**

*By: Tim Baker, Horticulture Specialist*

A popular shade tree throughout much of Missouri is the pin oak. These native plants may reach heights of up to 80 feet, and grow from one of the smallest acorns in the oak family. It prefers rich, moist soil, but is widely adapted to other sites as well.

The pin oak is one of the easier oaks to transplant, due to its relatively fibrous root system. This makes it a popular choice for homeowners. It’s attractive, pyramidal shape also makes it an excellent selection for landscape design. Fall colors also make this tree popular among homeowners. The leaves first turn a reddish green and then scarlet.

This tree grows rapidly. Healthy specimens may reach 20 feet in seven to eight years. This can provide a quick shade, compared to slower-growing varieties. Many trees bred for fast-growing shade production don’t live long. While the pin oak may not grow as fast as some of these trees, it can live a long time, up to several hundred years if the tree remains healthy.

One of the more common problems with pin oaks is their inability to tolerate alkaline soils. They prefer acid soils, with a pH between 5.0 and 6.5. If the pH is higher than that, they will develop yellow foliage and stunted growth. This condition is known as iron chlorosis.

Iron chlorosis is caused by the tree’s inability to absorb iron from the soil when pH is too high. The solution is to lower the soil pH, and with time, the problem will be corrected. Iron sulfate or elemental sulfur may be added to the soil around the tree, which will lower the pH. In addition, iron chelates may be used as a foliage spray. This method is short-lived, however, and does not cure the problem permanently. You will still need to treat the soil to lower its pH.

If you have a pin oak that you suspect may be suffering from iron chlorosis, I would recommend that you submit a soil test to University of Missouri Extension so that we can see what the pH level is. After the results of the test are back, we can make specific recommendations on how to lower the soil acidity and correct the tree’s problem.

**GROWERS SHOULD SCOUT FOR SPIDER MITES IN SOYBEANS**

*By Wayne Flanary, Regional Agronomist*

Areas of northwest Missouri have missed rains and in those areas, we are now seeing spider mite damage in soybean. Damage by spider mites is caused by the mites piercing the cells and sucking out the cell contents. The injury produces yellow or white spots that is heaviest on the underneath side of the leaf.

As spider mites continue to grow, the injury becomes worse. Leaves progress from grayish green to yellow or brown and may even drop off. Damage can be mistaken for drought.

The pest is very hard to see and are greenish to yellow with two dark spots on their abdomen. They have eight legs not six like an insect.

Several fields have oval shaped damage in fields. These are where mites have already fed. To find live mites, move to the transition area where soybeans are not damaged. Use a hand lens or shake on a white sheet of paper. Spider mites will move further in the field by wind and cause hot spots to appear. Soybeans are moving into full pod and seed fill stages, so it is critical to scout.

There are no economic thresholds for determining when to spray. From experience, if you have damage along the field edge, spray whole field not just the edge. Chlorpyrifos and dimethoate have performed well in the past against this pest.

Bifenthrin has longer residual and is labeled. It is the only pyrethroid insecticide, which has activity. Fields may be re-infested as eggs may hatch. Re-scout fields within five days to determine if egg hatch and if populations are rebuilding.

If populations are rebuilding, switch products and mode of action. Also, a hard driving rain may reduce pest population or cause the population to crash.

For more information, contact Wayne Flanary at 660-446-3724 located in Oregon or Andy Luke at 660-425-6434 located in Bethany, Regional Agronomists, University of Missouri Extension.
GRILL MEAT BUT AVOID THE CARCINOGENS

By: Janet Hackert, Nutrition and Health Education Specialist

Whether you grill just during the summer or throughout the year, here are some tips for grilling safely without the carcinogens that can be produced on the surface of meats at high temperatures.

It has long been known that cooking meat at very high temperatures can create the potential for dangerous, cancer-causing chemicals, called heterocyclic amines (HCAs). In fact, according to J. Scott Smith, a Kansas State University animal science and industry professor, “HCAs are three to four times more prevalent on meats that are burnt compared to meats that are cooked without burning.” Avoid these by cooking meat thoroughly to the proper temperature (measured with a meat thermometer) but not to the point of charring or blackening. When grilling, try increasing the space between the heat source and the meat. Trim extra fat or choose lean cuts to avoid flame-ups of dripping, fatty fuel. If using charcoal, give it time to make hot coals for an even heat.

Smith recently released study results demonstrating how to use seasonings to avoid HCA formation during grilling. “Blending [black] pepper with antioxidant-rich spices [like oregano and garlic] works so well in ground beef patties and on steaks that the spice formulation eliminates nearly 100 percent of HCAs,” says Smith.

Other highly effective spices at blocking HCA formation that Smith studied are from the mint family, such as rosemary, thyme, oregano, basil, sage and marjoram, and the myrtle family, including cloves and allspice. Some of these may not go well with meats, but could taste good with fish, which can also form HCAs.

Smith also studied typical store-bought marinades for efficacy at reducing HCAs. He found that they could be effective, but cautions that timing is important. Although some may think that more is better, when it comes to reducing formation of HCAs, this does not hold true. Smith cautions, “Marinating too long has the opposite effect because it can cause the antioxidants in the sauce to decompose. Just a couple of hours is an ideal time for marinating.”

For more details on Smith’s research findings, go to http://www.k-state.edu/media/newsreleases/2017-05/grilling51617.html

For more information on grilling safely, or any other topic, contact me, Janet Hackert, at 660-425-6434 or HackertJ@missouri.edu, or your local University of Missouri Extension office.

AUGUST GARDENING CALENDAR

Vegetables

Weeks 1-4: Compost or till under residues from harvested crops.
Weeks 1-3: Sow seeds of beans, beets, spinach and turnips now for the fall garden. Spinach may germinate better if seeds are refrigerated for one week before planting.
Weeks 1-3: Cure onions in a warm, dry place for 2 weeks before storing.
Week 1: Broccoli, cabbage and cauliflower transplants should be set out now for the fall garden.
Weeks 2-4: Begin planting lettuce and radishes for fall now.
Weeks 3-4: Pinch the growing tips of gourds once adequate fruit set is achieved. This directs energy into ripening fruits, rather than vine production.

Lawns

Weeks 1-2: Zoysia lawns can receive their final fertilizer application now.
Weeks 1-2: Apply insecticides now for grub control on lawns being damaged by their activity.
Weeks 3-4: Lawns scheduled for renovation this fall should be killed with Roundup now. Have soil tested to determine fertility needs.
Week 4: Dormant lawns should be soaked now to encourage strong fall growth.
Week 4: Verify control of lawn white grubs from earlier insecticide applications.
Ornamentals

**Weeks 1-4:** Continue spraying roses that are susceptible to black spot and other fungus diseases.

**Weeks 1-4:** Annuals may appear leggy and worn now. These can be cut back hard and fertilized to produce a new flush of bloom.

**Weeks 1-4:** Deadhead annuals and perennials as needed.

**Weeks 1-2:** Divide oriental poppies now.

**Weeks 1-2:** Feed mums, asters and other fall-blooming perennials for the last time.

**Weeks 1-2:** Roses should receive no further nitrogen fertilizer after August 15th.

**Weeks 1-2:** Powdery mildew on lilacs is unsightly, but causes no harm and rarely warrants control, though common rose fungicides will prove effective.

**Weeks 1-2:** Madonna lilies, bleeding heart (*Dicentra*) and bloodroot (*Sanguinaria*) can be divided and replanted.

**Weeks 1-2:** Divide bearded iris now. Discard old center sections and borer damaged parts. Replant so tops of rhizomes are just above ground level.

**Weeks 1-2:** Prune to shape hedges for the last time this season.

**Weeks 2-4:** Order bulbs now for fall planting.

**Weeks 2-4:** Evergreens can be planted or transplanted now to ensure good rooting before winter arrives. Water both the plant and the planting site several days before moving.

**Weeks 2-4:** If you want to grow big dahlia flowers, keep side shoots pinched off and plants watered and fertilized regularly.

Fruits

**Weeks 1-4:** Prop up branches of fruit trees that are threatening to break under the weight of a heavy crop.

**Weeks 1-3:** Protect ripening fruits from birds by covering plants with a netting.

**Weeks 1-3:** Continue to spray ripening fruits to prevent brown rot fungus.

**Week 1:** Thorn less blackberries are ripening now.

**Weeks 2-4:** Watch for fall webworm activity now.

**Weeks 2-4:** Cultivate strawberries. Weed preventers can be applied immediately after fertilizing.

**Weeks 2-3:** Spray peach and other stone fruits now to protect against peach tree borers.

**Weeks 2-3:** Fall-bearing red raspberries are ripening now.

**Weeks 2-3:** Sprays will be necessary to protect late peaches from oriental fruit moth damage.

Miscellaneous

**Weeks 1-4:** Soak shrubs periodically during dry spells with enough water to moisten the soil to a depth of 8-10 inches.

**Weeks 1-4:** Once bagworms reach full size, insecticides are ineffective. Pruning off and burning large bags provides better control.

**Weeks 1-2:** Spray black locust trees now to protect against damage by the locust borer.

**Weeks 2-4:** Hummingbirds are migrating through gardens now.

**Weeks 2-3:** Watch Scotch and Austrian pines now for Zimmerman pine moth damage. Yellowing or browning of branch tips and presence of pitch tubes near leaf whorls are indicative. Prune and destroy infected parts.

**Weeks 3-4:** Clean out cold frames to prepare for fall use.

**Weeks 3-4:** Monitor plants for spider mite activity. Hose these pests off with a forceful spray of water.

**Weeks 3-4:** 2nd generation pine needle scale crawlers may be present on mugo pine now.

For more information contact your local University of Missouri Extension Office.

Gardening Calendar supplied by the staff of the William T. Kemper Center for Home Gardening located at the Missouri Botanical Garden in St. Louis, Missouri.

(www.GardeningHelp.org)
Breakfast: Start your day out right
By: Sarah Wood, Nutrition and Health Specialist

We all know that breakfast is the most important meal of the day, but is eating a donut really better than eating nothing at all? Maybe not. A healthy breakfast is the perfect way to start your day out on the right path, and just because the meal is important, it doesn’t mean that it has to take a lot of time. Good nutrition can come in a variety of forms.

Reasons to eat breakfast:
- Break your fast and jump start your metabolism
- Aids in weight management
- More energy and focus in the morning and throughout the day
- Reduces likelihood of overeating/snacking later in the day
- Maintain steady blood sugars for those with diabetes

Have a plan for breakfast:
- What will you have?
- When will you make it?
- When will you have time to eat it?
- What could stop you from making or eating breakfast?

Make sure it’s healthy:
- Include at least three food groups.
- Aim for at least 10-20 grams of protein. One egg has about 6 grams of protein.
- Get at least one cup of fruit and/or vegetables.
- Minimize added sugars.
- Look for whole grain cereals, and aim for at least 5 grams of fiber per serving.
- If choosing juice, make sure it is 100% juice and keep serving size to 6 oz. or less.
- If going through the drive-thru, look up the nutrition information before you go.

Keep it fun, quick, and easy:
Don’t be afraid to think outside of the box and choose non-traditional foods. A turkey sandwich or leftovers from last night’s dinner can be perfectly good options.

Avoid getting stuck in a rut.
If serving picky kids, try arranging foods in a fun design on the plate.

Breakfast Nachos
Makes 4 servings

Ingredients:
- 4 ½ cups baked tortilla chips (3 ounces)
- ½ teaspoon cumin
- 1 (15 oz.) can black beans, rinsed and drained
- ¾ cup bottled salsa
- 2 eggs
- 3 egg whites
- 3 tablespoons fat-free milk
- 1/8 teaspoon ground black pepper
- Nonstick cooking spray
- ½ cup shredded reduced-fat Mexican cheese blend (2 ounces)

Directions:
1. Divide chips among serving plates, spreading into single layers; set aside. In a dry small saucepan, heat cumin over medium heat about 1 minute or until aromatic, stirring frequently. Stir in black beans and salsa. Cook for 1 to 2 minutes or until heated through, stirring occasionally. Remove from heat; cover and keep warm.

2. In a medium bowl, whisk together eggs, egg whites, milk, and pepper. Coat a medium nonstick skillet with cooking spray; heat skillet over medium heat. Pour in egg mixture. Cook over medium heat, without stirring, until mixture starts to set on the bottom and around edge. Using a spatula or a large spoon, lift and fold the partially cooked egg mixture so that the uncooked portion flows underneath. Continue cooking for 2 to 3 minutes or until egg mixture is cooked through, but is still glossy and moist. Remove from heat immediately.

3. Break up cooked eggs and spoon onto tortilla chips. Top with salsa mixture and cheese. Serve immediately.

Nutrition Facts: 207 calories, 6 g fat, 113 mg cholesterol, 503 mg sodium, 26 g carbohydrate, 4 g fiber, 14 g protein
**Breakfast: Start your day out right Cont’d**
*By: Sarah Wood, Nutrition and Health Specialist*

**Overnight Oats**

Makes 1 serving

**Ingredients:**
- ½ cup old fashioned oats
- ¼ cup plain nonfat Greek yogurt
- ¼ cup low-fat milk
- 1 cup fresh or frozen fruit, chopped
- Optional seasonings or additions (cinnamon, nutmeg, pumpkin pie spice, nuts, shredded coconut, peanut butter, cocoa powder, chia seeds, ground flaxseed, etc.)

**Directions:**
Combine all ingredients in a 1-pint mason jar. Cover with lid, and shake to combine. Let sit in refrigerator overnight for oats to absorb liquid and soften. When ready to eat, shake or stir with spoon, and enjoy. Store in the refrigerator for up to 4 days.

**Nutrition Facts**: 270 calories, 4 g fat, 3 mg cholesterol, 63 mg sodium, 44 g carbohydrate, 7.5 g fiber, 16 g protein

*Nutrition information calculated without optional additional ingredients. Information will vary based on type of fruit and additions made.

For more information, contact Nutrition and Health Specialist Sarah Wood at 816-279-1691, University of Missouri Extension.

**Stay Strong, Stay Healthy Classes in Albany**
*By: Janet Hackert Nutrition and Health Specialist*

Staying strong can mean staying healthy, as well as remaining independent longer. Summer provides lots of opportunities for aerobic activity, but it is also important to build and maintain muscle strength. As they say, “use it or lose it.” University of Missouri Extension nutrition and health education specialist, Janet Hackert, will offer the *Stay Strong, Stay Healthy* class to help people learn how to build up the muscular strength needed to do everyday activities.

The class will be held twice a week on Wednesdays and Fridays at the Albany First Presbyterian Church from 9-10 a.m. from August 23 to October 13, 2017. Please pre-register by contacting Janet Hackert by August 15, 2017. August 16 will be a required orientation session at the same location and time as the classes. Class size is limited so sign up soon to get a spot. Weights will be provided for use during classes. Participants are asked to wear comfortable clothing and shoes, and bring a towel and water. The class is $20 for the full eight-week session.

This class is not about becoming body builders though. It is about helping adults build up and regain the upper and lower body strength they need to maintain independence. Exercises are designed for older adults and are done either standing or sitting.

The American College of Sports Medicine (ACSM) has set guidelines for older adults for resistance exercise to maximize the benefits. Benefits to strength training can include arthritis relief, improved balance, strengthened bones, weight control, reduced risk of heart disease, and better maintenance of healthy blood sugar levels.

The ACSM recommends, “Performing at least one set of repetitions for 8-10 exercises that train the major muscle groups, 2-3 times per week on nonconsecutive days.” Participants in the *Stay Strong, Stay Healthy* class learn to do these types of exercises safely, along with some stretches.

The resistance for strength training exercises can be from gravity or created by using hand and ankle weights. Increasing the weight increases the resistance and strengthens the muscles. With stronger muscles, a person may find that the everyday tasks that have become burdensome with age are not as difficult as in the past. An 80+ year old class member said that, "after doing these exercises even getting up out of a chair was easier!"

If you have noticed that getting up from a chair is harder, lifting things off a shelf is not as simple as it used to be or keeping up with grandkids is a formidable task, this class may be for you. To register for the class by August 15, or for more information, contact Janet Hackert, at the MU Extension office in Harrison County at 660-425-6434 or HackertJ@missouri.edu. If you need special accommodation because of a disability, please mention it at registration.
Regional Program & Activity Calendar

August 2017

14 Dealing with Pasture Weeds Monday, Aug. 14, 2017, 6:30 p.m. to 8 p.m. at 21262 Genoa Road, Linneus MO. Weeds in pastures and hayfields reduce forage productivity and quality. Learn more about soil fertility effects on forage production. Call 660-895-5123 or email tatev@missouri.edu by August 10 to register. Cost is $15.00. Facilitator Valerie Tate  tatev@umsystem.edu MU Extension in Linn County Phone: (660)895-5123

19 Quality for Keeps: Home Food Preservation Made Easy Saturday, Aug. 19, 2017, 9:30 a.m. to 3:30 p.m. at FCS Financial 2109 South Riverside Road, St. Joseph, MO (downstairs kitchen, park around back. This 3-in-1 workshop is a crash course in food preservation. In one day, we will cover pressure canning, water bath canning, dehydrating, and freezing produce. Participants will learn methods and recipes that have been tested for both safety and high quality. This class provides the hands-on experience and a thorough guidebook that will allow participants to walk away with not only their own canned items, but also the confidence to preserve food at home. Lunch will be provided! Registration Deadline is 8/17/2017. Cost is $40.00. Facilitator Sarah Wood, woodsarah@missouri.edu MU Extension in Buchanan County Phone: (816)279-1691

24 Tomato Fest! Thursday, August 24, 2017 5:00 p.m. to 7:00 p.m. at Buchanan County Extension Office 4125 Mitchell Avenue, St. Joseph, MO 64507. Master Gardeners, Horticulture, and Nutrition Specialists from University of Missouri Extension will be on site to discuss producing, preparing, and preserving tomatoes and will offer taste testing of more than 50 varieties all grown on site. No cost to attend. For more information contact Buchanan County Extension office at (816)279-1691.

September 2017

6 MTI-Building Effective relationships for supervisors: Chillicothe Wednesday, Sept. 6, 2017, 9 a.m. to 4 p.m. at 400 US-36 Bus, Chillicothe MO. Building effective relationships with the team members you supervise is one of the best strategies to ensure team performance and prevent future conflicts. We'll examine personality differences, generational differences and how to proactively build trust. For registration information contact Livingston County Extension Office at (660) 646-0811 or email livingstonco@missouri.edu. Cost is free. Facilitator Jessica Trussell, trusselljl@missouri.edu MU Extension in Livingston County Phone: (660)646-0811.

14 Regional Grazing School Thursday, Sept. 14, 2017, 1 p.m. to Friday, Sept. 15, 2017, 5 p.m. at Forage Systems Research Center 21262 Genoa Road, Linneus MO. Management Intensive Grazing schools are designed to teach producers about the basics of management intensive grazing with a hands-on approach. For registration information contact the Linn County Extension Office for registration information at linnco@missouri.edu or call 660-895-5123. Cost is $115.00, second person from the same operation is $75.00. Facilitator Valerie Tate, tatev@umsystem.edu MU Extension in Linn County Phone: (660)895-5123.

19 SBA Loan Seminar Tuesday, Sept. 19, 2017, 11 a.m. to 1 p.m. at 3201 West 16th Street, Sedalia MO. For registration information contact: thelearningforce@sfccmo.edu 660-530-5855. Cost is $10.00 which included lunch. Facilitator Kelly Asbury, kasbury1@sfccmo.edu State Fair Community College SBTDC (SFCC SBTDC) - 74011 phone: (660)596-7350.

For additional Northwest Region events, please contact your local extension office or visit www.extension.missouri.edu
# Northwest Region Extension Specialists

## Regional Director

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Joe Lear, St. Joseph</td>
<td>(816) 279-6064</td>
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## AGRICULTURE

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<thead>
<tr>
<th>Name</th>
<th>Office</th>
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<tbody>
<tr>
<td>Randa Doty, Maryville</td>
<td></td>
<td>(660) 582-8101</td>
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<tr>
<td>Bob Kelly, St. Joseph</td>
<td>(816) 279-1691</td>
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<tr>
<td>Catherine Neuner, Higginsville</td>
<td>(660) 584-3658</td>
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<tr>
<td>Joe Koenen, Unionville</td>
<td>(660) 947-2705</td>
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<tr>
<td>Wayne Flanary, Oregon</td>
<td>(660) 446-3724</td>
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<tr>
<td>Andy Luke, Bethany</td>
<td>(660) 425-6434</td>
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<tr>
<td>Vacant, Richmond</td>
<td>(816) 776-6961</td>
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### Ag Business

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Shawn Deering, Albany</td>
<td></td>
<td>(660) 726-5610</td>
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<tr>
<td>Jim Humphrey, Savannah</td>
<td>(816) 324-3147</td>
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<tr>
<td>Amie Schleicher, Rock Port</td>
<td>(660) 744-6231</td>
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<tr>
<td>Jenna Monnig, Princeton</td>
<td>(660) 748-3315</td>
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### Agronomy

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<tr>
<th>Name</th>
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<tr>
<td>Tim Baker, Gallatin</td>
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<td>(660) 663-3232</td>
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<tr>
<td>Tom Fowler, St. Joseph</td>
<td>(816) 279-1691</td>
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</tr>
<tr>
<td>Kathi Mechem, Carrollton</td>
<td>(660) 542-1792</td>
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## Community Development

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<tr>
<th>Name</th>
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<tr>
<td>Jerry Baker, Rock Port</td>
<td>(660) 744-6231</td>
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<tr>
<td>Beverly Maltsberger, St. Joseph</td>
<td>(816) 279-1691</td>
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## 4-H Youth Development

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Eric Jackson (Ray, Lafayette)</td>
<td>(816) 776-6961</td>
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<tr>
<td>Debbie Davis (Clinton, DeKalb, Caldwell)</td>
<td>(816) 539-3765</td>
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<tr>
<td>Annette Deering (Nodaway, Worth, Atchison,)</td>
<td>(660) 582-8101</td>
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<tr>
<td>Shaun Murphy (Livingston, Mercer, Grundy)</td>
<td>(660) 646-0811</td>
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<tr>
<td>Becky Simpson (Daviess, Harrison, Gentry)</td>
<td>(660) 663-3232</td>
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<tr>
<td>Cindy Wells Buchanan, Andrew, Holt</td>
<td>(816) 279-1691</td>
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<tr>
<td>Taylor Bryant (Saline, Carroll)</td>
<td>(660) 886-6908</td>
<td>(Bolded county name indicated headquarter county)</td>
</tr>
<tr>
<td>Susan McNickle (Buchanan)</td>
<td>(816) 279-1691</td>
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<tr>
<td>Jena Eskew (Livingston)</td>
<td>(660) 646-0811</td>
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## Human Environmental Sciences

### Family Financial Education

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
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<tbody>
<tr>
<td>Meridith Berry, Trenton</td>
<td>(660) 359-4040</td>
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<tr>
<td>Trish Savage, Marshall</td>
<td>(816) 866-6908</td>
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<tr>
<td>Vacant, Savannah</td>
<td>(816) 324-3147</td>
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### Housing & Environmental Design

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Vacant, Maryville</td>
<td>(660) 582-8101</td>
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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Katie Pemberton, St. Joseph</td>
<td>(816) 279-1691</td>
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<tr>
<td>Jessica Trussell, Chillicothe</td>
<td>(660) 646-0811</td>
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### Nutrition & Health Education

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<tr>
<th>Name</th>
<th>Office</th>
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<tbody>
<tr>
<td>Janet Hackert, Bethany</td>
<td>(660) 425-6434</td>
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<tr>
<td>Tyler Hall, Trenton</td>
<td>(660) 359-4040</td>
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<tr>
<td>Sarah Wood, St. Joseph</td>
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<tr>
<td>Tracy Delaney, Higgingsville</td>
<td>(660) 584-3658</td>
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## Human Environmental Sciences

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<th>Name</th>
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<tr>
<td>Penny Crawford (Project Director), Cameron</td>
<td>(816) 632-7009</td>
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<tr>
<td>Connie Mower (Program Manager), Cameron</td>
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### NNEP Nutrition Program Assistants/Associates

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Micah Doty, Bethany</td>
<td>(660) 425-6434</td>
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<td>Pamela Gladbach, Higginsville</td>
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<td>Connie Griffith, Cameron</td>
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<td>Kathy Smith, Higginsville</td>
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<tr>
<td>Terra Treece, Cameron</td>
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## Newsletter Editors

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<tr>
<td>Katie Pemberton</td>
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## Layout Designer

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<tr>
<td>Maranda Acton, St. Joseph</td>
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## Northwest Region’s Small Business & Technology Development Centers

### St. Joseph Satellite Office

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Rebecca Evans Lobina</td>
<td>(816) 364-4105</td>
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