



BEAVER COUNTY
EXTENSION

Agriculture

Beaver County Extension Office

ADDRESS

111 West 2nd St.
P.O. Box 339
Beaver, OK 73932

PHONE

580-625-3464

EMAIL

elizabeth.mcbee@okstate.edu
loren.sizelove@okstate.edu
connie.mcminn@okstate.edu

WEBSITE

extension.okstate.edu/county/
beaver/beaver.html

Facebook

Beaver County OSU Extension

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RANCHER'S THURSDAY LUNCHTIME SERIES

Conception to Consumption: Dairy x Beef Webinar Series

These free Zoom webinar sessions are scheduled for Thursdays at noon. Join our Beef Cattle Extension team, experienced ranchers and scientists to learn and share beef cattle production, management and marketing tips!

April 11, 2024 Targeted Nutrition: Building Better Beef Crosses Starts on Day 1 - Dr. Olivia Genter-Schroeder, Purina Animal Nutrition

Neonatal Management for Successful Dairy x Beef Crossbred Systems - Dr. Jennifer Spencer, Texas A&M AgriLife Research and Extension Center

April 18, 2024 Dairy x Beef – Understanding Feedlot Performance and Carcass Characteristics - Casey Maxwell, Cactus Feeders

Economics of Dairy x Beef Crossbred Systems - Dr. Eric DeVuyst, Oklahoma State University

April 25, 2024 Feedlot Q&A of Dairy x Beef Crossbred Calves - Tom Fanning, Buffalo Feeders
Understanding Liver Abscess Prevalence in Beef x Dairy Feedlot Cattle - Dr. Kendall Samuelson, West Texas A&M

May 02, 2024 Post-Weaning Management: Effects of Performance, Efficiency, and Carcass Characteristics - Ally Grote, Oklahoma State University

Comparison of Carcass and Meat Traits between Dairy, Dairy x Beef, and Native Beef Calves - Dr. Blake Foraker, Washington State University

Click this link for registration and to join the zoom: [Webinar Registration - Zoom](#)

Did you know 70% of Oklahoma wheat acres are planted with Oklahoma State University varieties?

OSU Agriculture's research stations are invaluable in bringing crop advances and viable management solutions to Oklahoma producers. The [Wheat Improvement Team](#) has commercially released 37 wheat varieties since 2000, and farmers using technology and approaches developed by OSU have seen incredible cost savings.

In many cases, our research teams have continued to accomplish these things while working in [severely outdated facilities](#). The OSU Agronomy Farm off Highway 51 in Stillwater is a prime example of an important [OSU Ag Research](#) resource in dire need of updates. The good news is we are now taking the first steps, thanks to the [OSU Board of Regents' recent approval](#) of moving forward with the selection of architectural and construction management firms.

The \$10 million first phase of the project is focused on enhancing the Agronomy Farm's greenhouses and other facilities to provide even better products and solutions for Oklahoma producers. The project is expected to take place over the next several years.

Additionally, there has been an ask put forward to the Oklahoma Legislature that would enhance competitive compensation for Extension and research station employees as well as facility investments at key research stations. The funds requested will be a key factor in making the agronomy farm project and other infrastructure updates, such as that of the [Robert M. Kerr Food and Agricultural Products Center](#), come to fruition.

Speaking of facilities, [New Frontiers Agricultural Hall](#) is almost complete, and we are on track to move into the new building this summer. Our new home will house state-of-the-art laboratory and classroom facilities to further advance the science of the next generation of researchers.

We have lots of dreams and ideas on the cusp of reality! It will be inspiring to see the outcome of these strategic investments as we work together, innovating to nourish the world.

N-P-K and Plant Growth

David Hillock

Plant growth and health is dependent on several mineral elements in the soil. Nitrogen (N), phosphorus (P) and potassium (K) are considered macronutrients, not because they are larger than the other essential elements, but simply, they are used in larger quantities by the plant. These are also the three numbers you will see on most fertilizer bags and always in that order, N-P-K.

Nitrogen is needed for the development of dark, green color in plants. It is essential for rapid and continuous vegetative growth. Of all the nutrients, N is most commonly deficient, especially when plant vegetation is removed from the area where it grew (bagging lawn clippings).

Phosphorus aids plants in getting off to a rapid, vigorous start, promotes early root formation, stimulates blooming and seed production, and hastens maturity. Phosphorus deficiency in mature landscapes and gardens is uncommon because plants use only about 1/8 as much phosphorus as they do nitrogen. Since phosphorus is also immobile in the soil, it accumulates and will be adequately supplied by soils that have a history of annual applications of phosphorus.

Potassium or potash is needed for plant health and disease resistance. It is important in the ripening of fruit and helps to develop full, plump seeds. Potassium deficiency is common in high rainfall regions such as eastern Oklahoma.

Where needed and applied in required amounts, commercial fertilizers do not injure the soil. They do not poison vegetables or other plant growth. They do not destroy animal life—earthworms or bacteria—in the soil. On the contrary, the addition of fertilizer provides both plant and animal life in the soil with nutrients essential to their welfare.

Organic fertilizers or organic soil amendments may also be used. Organic fertilizers are products derived from the remains or by-products of a once-living organism. Some organic products have a nutrient guarantee, such as blood meal and bone meal, but others are sold as soil amendments with no nutrient guarantee, even though they have nutrient values.

In general, organic fertilizers release nutrients slowly and gradually because organic fertilizers depend on soil organisms to break them down to release nutrients. An organic amendment may only release 50 percent of the total N during the first growing season. In contrast, N in commercial synthetic fertilizers is readily available. Therefore, a doubled amount of total N from an organic source needs to be applied to supply the needed N. During cold, wet periods, organic sources may not be able to supply the needed nutrients to a plant because the microorganisms that break it down are inactive. During these times if there is a need for nutrients then supplementing with synthetic fertilizers may be needed to meet the demands of the plants.

To make sure your plants have the required nutrients to encourage lush and vigorous growth and production have your soil tested every few years. Soil tests can be conducted through your County Extension Office. For more information on improving soil fertility and taking soil samples see fact sheets [HLA-6007 - Improving Garden Soil Fertility](#) and [PSS-2207 - How to Get a Good Soil Sample](#).

Resistance, Our First Defense to Pests

David Hillock

One of our best defenses to common pest problems in the garden and landscape is plants with natural resistance. By selecting varieties of plant species, or species that are inherently resistant to common pest problems, the use of pesticides needed to keep our plants looking good can be reduced.

When buying seeds or plants, try to choose those with built-in resistance to diseases, insects, and nematodes. Sources for this information include OSU Extension Fact Sheets, seed catalogs, and plant and seed packages. It may be better to forego some production capability in favor of the increased pest resistance, if you must make such a choice.

During the growing season, stressed plants can lose their resistance to pests, so be sure the crop has the water and nutrients it needs. When shopping for seeds and plants, check the labels for indications of pest resistance. For example, many garden phlox and crapemyrtles are susceptible to powdery mildew fungal disease; however, several varieties are available that are resistant to powdery mildew. When purchasing vegetables, check labels or packaging for abbreviations like these, used to designate various types of pest resistance or tolerance:

A— <i>Alternaria</i> stem canker	N—nematode
ALS—angular leaf spot	NCLB—northern corn leaf blight
ANTH—anthracnose	PM—powdery mildew
CMV—cucumber mosaic virus	SCLB—southern corn leaf blight
DM—downey mildew	St— <i>Stemphylium</i> (gray leaf spot)
F— <i>Fusarium</i> (race 1)	SW—Stewart's wilt
FF— <i>Fusarium</i> (races 1 & 2)	TMV—tobacco mosaic virus
L—leafspot	V— <i>Verticillium</i>
MDM—maize dwarf mosaic	

Crabgrass: A weed can be a forage.

Mike Trammell, Oklahoma State University
Southeast Regional Forage Agronomist

Crabgrass is an annual, warm-season grass that is fast growing, easy to establish, and capable of natural and prolific re-seeding, all of which allows it to excel as a “weed.”

Despite its bad reputation, crabgrass was originally used in Europe as fodder before being introduced into the United States, likely around the mid-1800s, as a forage for grazing livestock. During the past 30 years or so, there has been an enormous change in the perception of crabgrass with forage and livestock producers. It is now considered a legitimate forage crop.

In 1988, the Noble Research Institute was the first to publicly release a crabgrass cultivar, which was named Red River. During its history, Red River crabgrass became the main commercial cultivar, promoting the use of crabgrass as an important warm-season annual grass for forage and livestock operations. This initially occurred in the southern Great Plains but now has spread throughout the southern United States. Since then a handful of new forage crabgrass cultivars have been developed and released.

These improved crabgrass varieties are not weeds' but high-

producing, high-quality forages that are broadly adapted. The nutritive value of crabgrass is often superior to other warm-season forage options during summer for both haying and grazing. Forage crabgrass has high crude protein (8-14%) and high digestibility, which promotes average daily gains of livestock that can easily reach 2 pounds per head per day. It is also an excellent choice in many double-cropping systems, especially with winter annual forages like wheat, to extend the grazing period.

Crabgrass is widely adapted and can be used in both till and no-till forage production systems and is often managed in many livestock grazing operations as a reseeding crop, thereby reducing the cost of seed and other annual costs. In addition, crabgrass can also be used as a component in warm-season annual and perennial forage systems. It is particularly productive in dryland situations, but it also performs well under irrigation and across a range of soil pH levels (5 to 7.5). It can be used for silage or hay production and is an excellent choice for conservation purposes. It covers critical areas quickly due to its rapid growth and establishment.

Crabgrass seed is light and fluffy which can interfere with its ability to flow through a seed drill. Crabgrass seeds are rough in texture, resulting in individual seeds sticking together to form large clumps. The clumps not only cause problems when drilling but with the broadcasting of seed as well. To overcome these issues, crabgrass seed is sometimes mixed with a carrier, such as a fertilizer, to aid in seed flow through the machine when planting. Planting coated seed is also an option. Coated seed can also improve establishment results by adding bulk and weight to the seed, allowing it to be easily drilled or broadcast.

For best results, plant crabgrass mid-spring to early summer for the best forage production. Since yield is dependent on rainfall, avoid planting after mid-summer. Seeding rates should range from 4 to 6 pounds of pure live seed (PLS) per acre and planting depth should be 1/4-inch deep. Crabgrass' excellent ability to reseed makes re-establishment each year easy, which can potentially reduce costs; however, it is recommended to add low rates of additional seed annually to the production system. Adequate fertility must be provided for improved forages to be successful, and crabgrass is no exception. Always soil test and apply nitrogen, phosphorus and potassium accordingly.

Crabgrass works well when planted following small grains such as cereal rye or wheat. The small grains provide forage for late fall into spring and the crabgrass fills in during the summer and early fall to provide high-quality forage. Light tillage is recommended when the cereal forage is done being grazed or harvested in the spring. This improves seed germination and promotes better volunteer crabgrass stands for the summer.

In the summer, begin grazing crabgrass stands when plants are 4 to 6 inches tall, which typically occurs 30-40 days after seedling emergence. For hay production, cut crabgrass pastures in the boot to heading stage (normally 18 to 24 inches high), which will allow for at least two harvests per year. Regrowth is supported by remaining leaves and not by stored root and crown reserves, so avoid cutting crabgrass pastures lower than 3 inches.

Crabgrass has been building momentum in the last couple of years, and I suspect that it is due to those producers willing enough to try something "off the wall." After all, this weed has great potential to extend the grazing season and provide nutrient-dense forage to grazing livestock.

Cucumbers and Zucchini – Getting Ahead of Pests

David Hillock

Many are excited by the thought of fresh cucumbers and squash and eagerly set about planting them in the garden. But before long, enthusiasm can dwindle when the squash bugs arrive. Squash bug is the most serious pest of squash and pumpkins in the US and seems to be particularly troublesome in southern regions where it produces multiple generations per year. Their feeding behavior causes plants to wilt, yellow, and often die back, as they transmit viral infections from plant to plant. Squash bugs are by far the insect that we receive the most questions about. It is also one of the most difficult to control.

Squash bugs feed on summer squash, winter squash, pumpkins, melons, and cucumber. However, some cultivars are more susceptible than others to squash bug feeding and damage. So, our very first line of defense against squash bug damage is in the vegetable varieties we select for the garden. For example, yellow straightneck and yellow crookneck summer squash are highly susceptible to squash bug damage. Substituting zucchini for the yellow squash because it has demonstrated higher tolerance to squash bugs in numerous studies can reduce squash bug problems. However, there is one zucchini cultivar called 'Cocozelle' that has shown considerable susceptibility to squash bugs and should be avoided. Experiment with different cultivars of squash listed as resistant to determine which works best in your garden.

While cucumbers are also attacked by squash bugs, cucumber beetles tend to be a greater problem. Again, many cultivars are resistant to or are tolerant of cucumber beetle damage. Cucumber beetles are stimulated to feed by the chemical cucurbitacin, which is the chemical that gives some cultivars a bitter taste and causes gas in some people. Varieties listed as "burpless" or "non-bitter" contain little to none of the chemical compound and so are less attractive to cucumber beetles.

Selecting resistant cultivars is just one line of defense against squash bugs and cucumber beetles. We need to implement multiple strategies to manage these pests. Covering planted rows with floating row covers excludes both squash bugs and cucumber beetles from the plants, preventing egg-laying. The row covers must be tightly secured to the ground to exclude pests. We have used bags of sand, which are gentler on our row covers than rocks, bricks, or boards.

Cucumbers and squash are insect pollinated crops, so we must remove the row covers once plants begin flowering. At that time, hand picking insects and smashing egg masses provides additional control. You can also place wooden boards near the plants, where the squash bugs will congregate overnight. In the morning, you can lift the boards and remove the insects. The key to successful control of these pests is frequent monitoring for their presence and then taking immediate action to reduce the potential infestation.



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PO Box 339

OSU EXTENSION
4-H YOUTH DEVELOPMENT Beaver, OK 73932

CALENDAR

May 17	Lahoma Wheat Trial
May 21	Balko Wheat Trial
May 22	Hooker Wheat Trial
May 31 & June 1	West District 4-H Horse Show
Aug 21-24	Beaver Co. & 4-H Fair



Picture from OSU Extension Equine News website

Spring is upon us and plants are budding watch out for these: PLANTS POISONOUS OR HARMFUL TO HORSES

COLIC: Common cocklebur ; Nightshade berries; Mustard seeds;
Green acorns

STOCKING-UP/FOUNDER: Black walnut shavings; Hoary alyssum

RED OR BROWN URINE: White snakeroot, wilted maple leaves

SEIZURE/MUSCLE TWITCH: Brackenfern; field horsetail

MOUTH BLISTERS: Buttercup; Foxtail

DEATH: Cockecherry: Foxglove; Yew; Boxelder Seeds; Poison
Hemlock; Water Hemlock

AIMLESS WONDERING: Field Locoweed

REPRODUCTIVE PROBLEMS: Endophyte Infected Fescue

PHOTOSENSITIVITY: Wild Parsnip; Mold Infected Clover

SLOBBERS: Mold Infected Red Clover

BLEEDING: Moldy Sweet Clover

Compiled by Krishona Martinson, University of Minnesota Extension;
Lynn Hovda, Minnesota Racing Commission, and Mike Murphy
See your veterinarian, nutritionist or Extension educator for more information on plants that are poisonous or harmful to horses. You can also visit extension.umn.edu/horse

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“Persons with disabilities who require alternative means for communication or program information or reasonable accommodation need to contact Liz Gardner McBee or Loren Sizelove at 580-625-3464 or beaverext@okstate.edu at least two weeks prior to the event.”