CARTER COUNTY AGRICULTURE & NATURAL RESOURCES NEWSLETTER

May & June 2024

Cooperative Extension Service
Carter County
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Highlights:

⇒ The Carter County Farmer's Market opens on June 15th. See page 3 for details on locations and times, including the new Thursday sale day at the Grayson location.

⇒ All CAIP paperwork (including receipts, producer report form, education form, etc.) must be turned into the Soil Conservation Office by June 30th at 3:30 PM to receive reimbursement. Please do not wait until last minute if you have questions or need assistance.

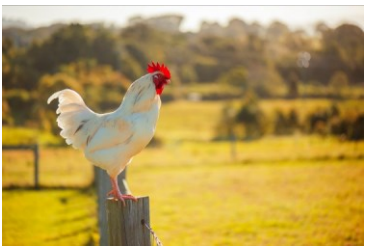
⇒ Call 474-6686 on May 1st or 2nd to schedule an appointment to pick up your Senior Farmer's Market Voucher.

Help us save resources! If you no longer wish to receive this newsletter or would prefer to receive your newsletter via email please call us at 474-6686 or email Rebecca.k@uky.edu.

Enjoy your newsletter,

Rebecca Konopka

Rebecca Konopka,
Carter County Extension Agent for
Agriculture & Natural Resources Education



Upcoming Events

Denotes events where preregistration is required. Call 474-6686 or email Rebecca.k@uky.edu to register.

5/1 @ 8:30-4:00	**Senior Farmer's Market Voucher Appointments**	Call 474-6686
5/2 @ 8:30-4:00	**Senior Farmer's Market Voucher Appointments**	Call 474-6686
5/3 @ 1:00 PM	**Hike & Learn**	Grayson Lake WMA — Walker Point Access
5/7 @ 6:00 PM	**Little Sandy Beekeepers**	Extension Office
5/9 @12:00 PM	**AI Demonstration**	RCARS
5/10 @ 9:00 AM	***Hay Production Field Day**	Fleming County
5/13 @ 6:00 PM	**Ag Advancement Council**	Extension Office
5/14 @ 10:00 AM	**District Board Meeting**	Extension Office
5/17 @10:15 AM	**Bonus Hike & Learn; X-Cave Tour**	Carter Caves
6/4@ 6:30 PM	**Little Sandy Beekeepers**	Extension Office
6/7 @ 1:00 PM	**Hike & Learn**	MSU Eagle Lake
6/11 @ 10:00 AM	**District Board Meeting**	Extension Office
6/12	***Senior Farmer's Market Voucher Pick Up**	Extension Office
6/13	***Senior Farmer's Market Voucher Pick Up**	Olive Hill Elementary Back Parking Lot
6/15	**Farmer's Markets Open**	Grayson & Olive Hill
6/22	***Farm to Table Breakfast**	Carter Caves
6/30 @ 3:30	**Deadline to Submit CAIP Paperwork for Reimbursement**	Soil Conservation Office
7/2 @ 6:30	**Little Sandy Beekeepers**	Extension Office

LOCALLY GROWN

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Kentucky Proud

Carter County FARMER'S MARKET

Opening Day: June 15th

GRAYSON

Located at the Farmer's Market Shed behind the Extension Office

Seasonal Hours:
Thursdays 2:00pm-6:00pm
Saturdays 9:00am-Noon

OLIVE HILL

Located in the parking lot across from Save-a-Lot

Seasonal Hours:
Mondays 3:00pm-SELL OUT
Wednesdays & Saturdays
8:00am-SELL OUT

Cooperative Extension Service

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.

Lexington, KY 40506

Disabilities accommodated with prior notification.

Little Sandy Beekeepers Association

First Tuesday of the Month @ 6:30 PM

May 7th - Speaker: Nathan Alexander, Big Sandy River Basin Coordinator

June 4th—Speaker: Rick Sutton

July 2nd—Speaker: TBD

QUALITY HAY PRODUCTION

FIELD DAY

FRIDAY, MAY 10, 2024

LOCATION: 1965 MARTHA MILLS RD, FLEMINGSBURG

9:00AM-2:00PM

RAIN DATE: FRIDAY, MAY 17

- **9:00AM:** REGISTRATION, DONUTS, & VENDORS OPEN
- **10:00AM-NOON:** UK SPECIALISTS COVER VARIETY OF TOPICS ON WEED ID, VISUAL COMPARISIONS OF HAY QUALITY AND MORE!
- **NOON:** LUNCH & VENDORS
- **12:30PM:** LOCAL EQUIPMENT DEALERSHIPS DEMOS

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USE THE QR CODE OR CONTACT YOUR LOCAL OFFICE TO REGISTER:

BRACKEN COUNTY: (606) 735-2141
FLEMING COUNTY: (606) 845-4641
LEWIS COUNTY: (606) 796-2732
MASON COUNTY: (606) 564-6808
ROBERTSON COUNTY: (606) 724-5796

PLEASE REGISTER BY: MAY 3RD

Cooperative Extension Service
Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

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Lexington, KY 40506

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HIKE& LEARN

Cooperative Extension Service

MAY 3RD @ 1:00 PM

GRAYSON LAKE WILDLIFE MANAGEMENT AREA

WALKER POINT ACCESS

Join us every month on the first Friday for Hike & Learn.

Hike Focus: Birding & Tree ID

Directions: Take Route 7 towards Sandy Hook. The trail head parking lot is on the left after you pass 986.

Special Guests: Billy Thomas & Laurie Thomas, UK Extension Foresters
Nathan Hall, KY Department of Fish & Wildlife

Difficulty: Easy **Trail Length:** Approximately 1.5 miles

Please wear closed-toe shoes and bring your own snacks and drinks.

Next (bonus) hike: May 17th @ Carter Caves State Resort Park
Meet at the Welcome Center at 10:15 AM for a Horn Hollow Hike.
Bring a sack lunch and we'll participate in an X Cave tour after lunch.

Next Month: June 7th @ 1:00 PM - Eagle Lake MSU Campus

Visit carter.ca.uky.edu/anr for more info.

Register at: https://www.kysheepandgoat.org/product-page/small-ruminant-boot-camp-and-famacha-srqa-certification

Price: $25– includes 1 FAMACHA & SRQA Certifications

June 1, 2024

Wolfe County Extension Office

Registration Deadline: May 27th

Online

May 13, 20, and 27 (***videos must be completed prior to June 1st)***

In-person Clinic:

9:15am-12:15pm, June 1, 2024

Wolfe County Extension Office, 20 Washington St, Campton, KY 41301

Hosted By: Kentucky AgVets; Kentucky Sheep & Goat Development Office; Kentucky Goat Producers Association; Kentucky Sheep & Wool Producers Association

Sponsored By: KY Sheep & Goat Check-Off; Kalmbach Feeds; United Producers, Inc. Bowling Green, KY

Herbicide Resistance Screening Program

UK is initiating a herbicide resistance screening program to assist crop producers in Kentucky. We hope that growers use this program to determine if the lack of efficacy in herbicides is due to resistance developing in a weed species or possibly caused by an environmental event or application issue. Spraying herbicides when resistance is present can be a waste of valuable time and money. Additionally, while specific information on farms will be kept private, obtaining herbicide resistant samples will allow for researchers at UK to determine the causes of herbicide resistance and begin to develop long-term solutions for growers.

If you have Italian Ryegrass, Johnsongrass, Horseweed, Water-hemp, Palmer Amaranth, and/or Giant Ragweed that were not killed/ suppressed by an herbicide but should have been please let us know so that we can obtain samples.

From the Woods Today

Wednesdays @ 11:00 AM

May 1: What is a Bird?

May 8: Amphibian Week

May 15: Cicadas– Rare Dual?

FROM THE WOODS TODAY

www.FromTheWoodsToday.com

Horticulture Webinar Wednesdays

12:30pm ET/11:30 am CT

Visit kentuckyhortnews.com

Martin-Gatton College of Agriculture, Food and Environment

MAY CLASSES

Wednesdays

12:30 p.m. ET/ 11:30 a.m. CT

May 1 - Opuntia: Hardy Cactus

May 8 - Home Cut Flower Gardening

May 15 - How to Grow Squash

May 22 - Flowering Shrubs for Multiple Landscape Uses

May - 29 - Old Time Favorites: Peonies

You must register before the class.

http://tinyurl.com/24MAYHWW

Click on the classes you want to attend.

You will get an email with the class link.

Register at:

http://tinyurl.com/24MAYHWW

Hay Fires: Should I Be Concerned?

~ Excerpted from Virginia Tech article by Dr. Ray Smith and Jerry Swisher

Each year a small number of producers lose hay and barns to hay fires, but for those that do it is devastating. A much more common occurrence though is quality losses that occur due to excessive heating of freshly harvested hay. How do heating and quality losses occur and what can you do to monitor and prevent hay fires?

Producers are challenged each year with small windows of opportunity in their efforts to bale and store hay at the proper moisture level while avoiding the risk of rain damage. Forage cut for hay must go from approximately 80% moisture to 20% moisture or less in order to be stable in storage as baled hay. As the cut forage dries down, both plant and microbial respiration (burning of oxygen) continues in the field.

All hay baled above 15% moisture will undergo some elevation in temperature the first couple of weeks in storage. Many producers refer to this elevation in hay temperature following baling as "sweating" or "going through a heat". This rise in temperature is caused by both plant and microbial respiration. Dr. Mike Collins, retired UK professor, reported that a small amount of heating (130°F or less) does not decrease hay quality and actually serves to dry down the hay by evaporating some of the moisture content.

Baling and storing hay high in moisture content (>20%) without taking steps to reduce or control microbial activity responsible for heat of respiration may reduce nutritional quality. Soluble carbohydrates are the principal group of compounds utilized "burned off' during respiration. The decrease of soluble carbohydrates and other chemical components during microbial respiration results in an increase in acid detergent fiber (ADF) which lowers digestibility.

When hay undergoes significant heating during storage, hay color can change dramatically, for example, green to various shades of brown. The degree of color change (e.g. light brown to dark brown) is indicative of the severity of heat damage to the hay. This type of heat damage represents a chemical reaction that fuses plant sugar and amino acids into an indigestible compound and is called the Maillard reaction. This compound is also referred to as bound protein even though the sugars are rendered indigestible. The degree of heat damage can be quantified by

conducting a chemical analysis for acid detergent insoluble nitrogen (ADIN).

Baling and storing hay high in moisture content can result in spontaneous combustion or a hay fire. Hay stored at moisture levels sufficient to maintain high relative humidity of the air in the hay mass allows plant and microbial respiration to generate heat and elevates hay temperatures to 158°F. The 158°F temperature may be reached within a few days or it may take several weeks if the air is drier. Above 158°F heat continues to be generated by oxidative chemical reactions.

When the temperature exceeds 175°F, the thermal death of microbes takes place. The increase in temperatures due to the oxidative chemical reactions is basically responsible for greatly increasing the potential for a rapid increase in heat to combustion temperatures of 448 to 527°F. The amount of time required for heating up to combustion may vary from four to ten weeks; however, it could be earlier or later. The moisture content of the forage, bale density, climatic and storage conditions (e.g. size of stack) are all factors that influence the time until combustion.

Important Points and Recommendations

• Small square bales should be baled at 20% moisture or less to keep molding and heating to a minimum.

• Since large round or rectangular bales retain internal heat, bale at less than 18% moisture.

• When baling above 20% moisture propionic acid can be applied to reduce microbial activity and subsequent heating. Check for recommended application rates.

• Round bales should usually be left in the field for a 1 to 3 weeks (depending on moisture at baling) to allow heat to dissipate. When moist hay is stacked immediately after baling, the stack concentrates the heat, temperatures rise, quality losses occur, and the stage is set for a hay fire.

• Check hay regularly. Symptoms of heating include: slight caramel odor, strong burning odor, visible vapor, strong musty smell, and hay that feels hot to the hands.

• Make a probe that can be driven or inserted into the hay mass to check the temperature. For example: take a 10’ piece of pipe or electrical conduit. Attach a pointed dowel to one end and drill 6 to 10 1/2 inch diame-

ter holes in the tube just above the dowel. Drive the prove into the hay stack and lower a thermometer on a string into the probe. Leave thermometer for 10-15 minutes in several areas of the stack to ensure an accurate reading.

• Watch for the following temperatures:

· 150°F * Beginning of the danger zone. Check temperature daily.

· 160°F * Dangerous. Measure temperature every four hours.

· At 175°F * Call the Fire Department. Wet hay down and remove it from the barn away from buildings and other dry hay.

· At 185°F * Hot spots and pockets may be expected. Flames will likely develop when heating hay comes in contact with the air. Be extremely careful at this stage when moving hay.

· At 212° *Critical. Temperature rises rapidly above this point. Hay will almost certainly ignite.

Take precautions and be extremely careful upon entering the barn when hay temperature are above 160°F. Pockets may have already burned out under the hay surface. Before entering a barn, place long planks on top of the hay. Do not attempt to walk on the hay mass itself. Always tie a rope around your waist and have a second person on the other end in a safe location to pull you out should the surface of the hay collapse into a fire pocket. This last recommendation may seem extreme, but precautions are essential when hay temperatures reach dangerous levels.

Will Longer Growing Seasons Increase Crop Productivity?

Dr. Dennis Egli UK Professor Emeritus

The growing season is usually defined as the days from the last freeze (32°F) in the spring to the first freeze (32°F) in the fall. Since climate change is increasing air temperature, the growing season is getting longer. The increase in length is a result of both the last freeze in the spring occurring earlier and the first freeze in the fall occurring later. One recent analysis of trends om the data from 10 counties in Western Kentucky suggested that there has been a 10% increase in the length of the growing season since 1950.

Does a longer growing season increase crop productivity? A longer growing season increases the time available for crop growth and it also increases the solar radiation available when temperatures are suitable for crop growth. With more time to grow and more solar radiation to drive growth, one would think that crop yields might go up – right? Unfortunately, it is not that simple.

Yield is directly related to the length of the growing season if yield is the total above ground plant (forages for example). The longer the crop grows, the higher the yield, so longer growing seasons could increase productivity of these crops.

The time–yield relationship in grain crops is more complicated. The key to understanding it lies in the crop growth cycle. Grain crops start out growing vegetatively, then they flower and shift to reproductive growth when seeds form and grow to their mature size. Yield is essentially zero at the beginning of the seed-filling period; all of the yield is produced during seed filling. The events (vegetative growth, flowering and seed set) prior to seed filling are important, but they are only preliminary to the main event.

There is substantial variation in the length of the total growth cycle (vegetative and reproductive growth) within and among grain crop species. A recent survey of literature identified soybean varieties that took from 86 to 144 days to reach maturity. Corn showed similar variation (78 to 149 days). A cowpea variety that reached maturity in 62 days had the shortest growth cycle I could find, while there were varieties of sorghum and rice that took ~250 days to reach maturity. Will Longer Growing Seasons Increase Crop Productivity?

Longer-duration grain crop varieties utilize more of the longer growing seasons, but they do not necessarily produce higher yield. Yield will increase only if the seed-filling period (when yield is produced) increases in

step with the total growth period.

Selecting varieties with longer total growth durations will increase the seed-filling period and yield only until the total growth duration reaches 100 to 110 days. The seed-filling period then stays the same as the total growth duration increases to a maximum. A variety that matures in 144 days will have the same seed-filling period and yield as one that matures in 110 days, but it will have a longer vegetative growth period. The extra vegetative tissue produced by the late maturing variety will not necessarily contribute to higher yield.

Growing a full-season variety will use more of the growing season and produce more vegetation but it will not necessarily convert the extra time (and extra solar radiation) into higher yield. The fullseason variety will spend the same amount of time producing yield (i.e., growing the seeds) as an earlier variety. Grain crops are just not very efficient at converting time into yield.

If yield was directly related to the total growth duration, yields should increase from North to South across the Corn Belt as the growing season increases. Varieties grown in the South have longer durations than those in the North, but yields are not higher, even in irrigated fields. The longer-season varieties cannot convert the extra time into yield.

One way to use the extra potential productivity provided by a longer growing season is with double cropping. Growing two crops in one year (two seed-filling periods in one year) uses more of the potential productivity. Growing soybean after a winter wheat crop increases the total yield per year, but it is only possible when the growing season is long enough to accommodate the second crop. Double or triple cropping is especially important in the tropics where the growing season is 365 days long. The higher temperatures associated with climate change will probably move double cropping north in the US.

The warming associated with climate change will no doubt continue to produce longer growing seasons. Unfortunately, the only way to capitalize on this change in potential productivity is through double cropping. Growing varieties that take longer to mature will use more of the growing season, but they will not necessarily produce higher yields. When faced with change, we should always remember the words of William R. Inge (1860 – 1954) - “There are two kinds of fools: One says, ‘This is old, therefore it is good’; the other says, ‘This is new, therefore it is better’ ”.

Adapted from Egli, D.B. 2011. Time and Productivity of Agronomic Crops and Cropping Systems. Agronomy Journal 103:743-750

Understand the Implications of a Price Slide When Buying and Selling Cattle

Dr. Kenny Burdine, University of Kentucky

Everyone who buys or sells feeder cattle regularly understands that in most markets price per lb decreases as cattle get heavier. This can create a challenge for pricing cattle in situations where weight is not known with certainty. This applies to forward contracts, internet sales and cattle that are sold off the farm but hauled to another location to determine pay weight. In these situations, cattle are often sold with a base weight and price is adjusted downward as the weight of the cattle exceeds that base weight. As an illustration, let's consider a backgrounder that sold cattle via an internet auction with an advertised base weight of 800 lbs and a price slide of $8 per cwt. Let's further assume that the cattle sell for $240 per cwt in the auction and will be hauled to a weigh station the following week to determine the pay weight.

If those steers were to weigh exactly 800 lbs, no price adjustment is needed. The pay weight is 800 lbs and the price is $240 per cwt for a total of $1,920 per head. However, if the cattle weighed 850 lbs, the price is adjusted downward because they are 50 lbs above the base weight. With an $8 per cwt slide, the price would be adjusted downward by $4 per cwt (50 lbs is half of a cwt). With a pay weight of 850 lbs and an adjusted price of $236 per cwt, the per head total is $2,006. Price slides can get much more complicated than this, but this simple illustration captures the process well enough for this discussion. As long as the price slide is not so large as to actually result in a lower value per head, the seller is typically happy to have more lbs to sell. In the previous example, the cattle sold for $86 more than they would have had they weighed right at the base weight.

Base weight	Sale Price	Pay Weight	Price Slide	Final Price per cwt	Final Value per head
800	$240	850	$8 per cwt	$236	$2,006.00
800	$240	850	$10 per cwt	$235	$1,997.50
800	$240	850	$12 per cwt	$234	$1,989.00

Now, I want to focus this discussion on the difference between the artificial price slide used to adjust the price for cattle weighing above the base weight and the actual market price discount as cattle get heavier. The table below illustrates this point in relatively simple terms. Suppose the

market price for an 800 lb steer is $240 per cwt and the market price for an 850 lb steer of the same type and quality was $235 per cwt. This would imply that the actual price discount in the feeder cattle market was $10 per cwt and the market value of those 850 steers would be $1,997.50 per head (850 lbs x $235 per cwt). If a seller advertised that group of steers with a base weight of 800 lbs and a $10 per cwt price slide, the price slide and the market discount for weight would match perfectly. The final price would be the same despite the fact that the pay weight exceeded the base weight. This scenario is shown in the middle row of the table below, but this will not be the case when differences exist between the market discount for weight and the price slide.

If the artificial price slide is less severe than the market discount as cattle get heavier, then the seller is actually better off if the pay weight exceeds base weight because the lower artificial price slide would result in a smaller price discount due to the additional lbs. This is illustrated below with the $8 per cwt price slide and note that the final price is higher for these steers. Previous research has found evidence that sellers tend to underestimate weights in these situations (Brorsen et al., 2001). Conversely, if the market discount is greater than the price slide, the seller would actually receive a lower final price than had they advertised the cattle with the higher base weight to begin with. Note that the $12 per cwt price slide below, which exceeds the market discount, results in a lower final price. In situations such as this, sellers have no incentive to overestimate weight (Burdine et al., 2014).

In theory, price slides used for selling cattle with weight uncertainties should evolve with the market. But my experience has been that they are often slow to adjust, whereas market conditions change very quickly. The key point from this discussion is that a price slide is most efficient when it is roughly equal to the market discount as cattle get heavier. In those situations, there is no incentive for sellers to underestimate weight when selling cattle on a slide and there is little true penalty if they do. Buyers and sellers both need to understand the implications when prices slides and market weight discounts diverge, as this can have an impact on both parties.

References: Brorsen, B. W., N. Coulibaly, F. G. C. Richter, and D. Bailey. 2001. “Feeder Cattle Price Slides”. Journal of Agricultural and Resource Economics. 26: 291-308. Burdine, K.H., L. J. Maynard, G.S. Halich, and J. Lehmkuler. 2014. “Changing Market Dynamics and Value-added Premiums in Southeastern Feeder Cattle Markets”. The Professional Animal Scientist. 30:354-361.

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