

Ag and Natural Resources Newsletter

July 2023

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A Word from the Agent . . .

Summer is definitely here, so that means to start enjoying everything outside. Just remember to have plenty of sunscreen and bug spray. The mosquitos and ticks have already shown to be a pain, and sunburns are never fun. Here at the office, we are still busy, but we are still here to help with your agricultural questions. Also, we are still sending hay samples and taking soil samples. Just give us a call if you need assistance or need to rent a hay or soil probe. Be safe out there!


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Forage Management Tips for July

- Continue grazing available summer annuals (millets, sorghum/Sudangrass, crabgrass, etc.).
- Apply 40-60 lb N/A to stimulate summer annual regrowth.
- Clip pastures late June/early July as needed to maintain vegetative growth and to reduce weed seeds, but don't clip lower than 4".
- Identify fescue pastures for stockpiling. Choose pastures that are well drained, have a strong sod, and have not been overgrazed.
- Soil test pastures to determine fertility needs.
- Using UK variety trial results, select varieties to plant in the fall and order seed.
- Use a designated sacrifice lot to feed livestock hay and supplements as needed if drought sets in and no forage is available for grazing.



**Monday,
August 7
6:00 pm**

OR

**Tuesday,
August 8
9:00 am**

**Clark County
Extension Service**

You only need to attend one of the trainings.

To register, call the Extension Office at 859-744-4682

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**WE WILL BE
CLOSED**

FOR

4TH OF JULY

INDEPENDENCE DAY



Managing Pastures



By: Chris D. Teutsch, UK Research and Education Center at Princeton

Managing Pastures During Dry Times

My farm old manager at the Virginia Tech's Southern Piedmont Ag Research station used to say that "the difference between a flood and drought is about two weeks. Truer words have never been spoken. In most summers we find ourselves teetering on the edge of drought multiple times and how we manage pastures prior to drought can have a profound impact on how quickly pastures recover after rain finally comes. Currently, significant areas within the Commonwealth are abnormally dry or under moderate drought conditions.

Developing and implementing a drought management plan will reduce the economic and emotional impact of drought on your operation and significantly speed up recovery of drought stressed pastures. The time to develop and implement this plan is before it gets dry. The strategies that are used will depend on the resources you have on your farm and your long-term goals. The remainder of this article will outline some strategies that could be used either alone or most effectively in a combination.

Ensure that livestock have access to adequate amounts of clean water. Water is the most important nutrient for livestock. During drought, the water requirement of livestock increases due to higher temperatures and the consumption of dry forage material and hay. In addition, naturally occurring water sources such as ponds, streams, springs, and seeps often have limited flow. So, it is important to make sure that livestock have unfettered access to clean water.

Soil test and adjust fertility. Maintaining soil test levels in the medium and high range and soil pH in the range of 6.0 to 6.4, will optimize the growth of pastures and hayfields prior to and during conditions. Maintaining proper soil fertility removes a stress from pastures, allowing them to better cope with dry conditions.

Set a sustainable stocking rate. Having a perpetually light stocking rate that underutilizes pastures in most years but gets you through drought years is a viable drought management strategy. However, this strategy requires that you have a lot of land area and will tend to reduce profit per acre. In most cases this probably is not the best long-term drought management strategy. There is no better way to lose money than under or overstocking your pastures. The best approach is to set a sustainable stocking rate and focus on other drought management strategies. In Kentucky and neighboring states, a sustainable stocking rate will be 2 to 3 acres per cow-calf unit.

Implement rotational grazing. Although this does not sound like much of a drought management strategy, the first thing that people notice when they switch from a continuous to rotational grazing system is that pastures grow longer into a drought and recover faster after the rain finally comes. The reason for this is that rotationally grazed plants have larger and healthier root systems that can go deeper into the soil for water. In addition to a larger and healthier root system, not grazing closer than 4-5 inches modifies the microclimate (conditions) near the soil surface, keeping the plants growing point (crown) cooler and reducing evaporation of water from the soil surface. Good grazing management is not just a drought management strategy, but probably one the best ones.

Incorporate deep-rooted legumes into pastures. Interseeding deep-rooted legumes into pastures increases pasture quality, supplies nitrogen that is shared with grass, dilutes the toxic endophyte, and extends grazing during a drought. The most commonly used legume would be red clover. The primary advantage of red clover is that it has great seedling vigor and can be easily frost seeded into pastures. Alfalfa possesses a deeper tap root and is more drought tolerant than red clover, but requires higher soil fertility and well drained soils. Alfalfa mixes well with a variety of grasses like orchardgrass and tall

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fescue, but can be difficult to get established into a well managed sod. The most drought tolerant legume and our only truly perennial warm-season legume is sericea lespedeza. Its major limitation is poor seedling an established sod. Once established, sericea has amazing drought tolerance, however palatability can be low. Making sure it does not get too tall before grazing is key to maintaining palatability.

Incorporate warm-season perennial grasses into grazing system. During the summer months, warm-season grasses will produce about twice as much dry matter per unit of water used when compared to cool-season grasses. There are several perennial warm-season grasses that can be used, but in western Kentucky the most productive, persistent, and tolerant to close and frequent grazing is bermudagrass. Bermudagrass requires management to be productive, which means it needs to be grazed frequently to keep it vegetative and it needs nitrogen. Other perennial warm-season grasses include the native grasses such as big and little bluestem, Indiangrass, switchgrass, and eastern gamagrass. These grasses can be productive parts of grazing systems, but will require a higher level of grazing management to persist. The last perennial warm-season grass that I want to mention is johnsongrass. I am going on record to make clear that I am NOT encouraging anyone to plant johnsongrass, but sometimes it just shows up. Johnsongrass occurs on many farms in Kentucky and could provide high quality summer grazing when managed. Because johnsongrass is extremely palatable, it needs to be managed under rotational stocking to persist. Otherwise it will be selectively grazed and eventually grazed out of the pasture.

Incorporate warm-season annual grasses into grazing system. Warm-season annual grasses like pearl millet, sorghum-sudangrass, sudangrass, and crabgrass can provide high quality summer grazing. The primary disadvantage with summer annual grasses is that they need to be reestablished every year, which costs money and provides the chance for stand failure. The exception to this is crabgrass that develops volunteer stands from seed in the soil. Although most people don't realize (or want to admit it) crabgrass has saved many cows during dry summers in Kentucky. Research has shown that crabgrass responds well to improved management and can produce 2-4 tons per acre of highly digestible forage. The best use of annuals in grazing systems is as a transition crop when pastures are being renovated.

Irrigate pastures. Irrigating your pastures can increase dry matter production by about 50% in a normal year and much more than that in a dry year. The best grass to irrigate is warm-season perennial and annual grasses such as bermudagrass and sorghum-sudangrass. One common misconception is that irrigating a cool-season grass will make it grow in the summer. Cool-season grass growth is limited by not only moisture, but also temperature. Once temperatures exceed 70 F, cool-season grass growth

greatly slows and even stops when nighttime temperatures remain above 80 F. In contrast, warm-season grasses do not even reach peak growth until 90 F.

Feed hay. The most efficient way to harvest forage is with the animal. In Kentucky we should strive to reduce hay feeding in our grazing systems. This doesn't mean that we will not ever need hay. Drought is certainly one of those cases that hay will likely be required. A common problem with the hay feeding strategy is that when you need it, everybody needs it and there is little to go around. In addition, the price of hay during a drought can be high. One thing to think about is buying hay when it is plentiful and the prices are low and storing it under cover. It is kind of like having money in the bank. Hay that was well cured will keep for years if it is kept off the ground and out of the weather.

A key to successfully using hay as part of managing drought stress is to start to feed it before pastures have been overgrazed. If you work through your rotation and the rested pastures have NOT regrown, it is time to feed hay. Your neighbors will look at you like you are crazy because your still have some grass, but what they don't understand is that you are managing for rapid recovery when it does rain. Hay feeding should be done in one paddock so that damage from overgrazing is confined to this area.

Utilize commodities to extend pastures. Commodities such as brewer's grain, corn gluten, and soybean hulls can be used to supplement and extend hay and pasture during drought periods. Things to consider are the availability, storage, handling, feeding, and price of commodities. The ability to readily get and store commodities and efficiently feed them is critical if they are going to be a key component in your drought management strategy.

Wean and sell calves early. This has a two-fold effect, first it reduces the number of grazing units and the total forage needed, and second it reduces the nutritional requirements of the brood cows. Example: A dry cow has an energy and protein requirement that will be 15% and 30% lower than a lactating cow. If this a drought management strategy that you are going to employ, make sure and sell calves before markets are flooded and prices drop.

Sell cows. This could be a good time to get rid of those older cows that you have been meaning to cull. However, selling your better animals is probably one of the least desirable drought management strategies. If you have invested time and money developing a superior herd, you are probably not eager to sell those animals when prices could be low. In addition, if you sell off a considerable portion of your herd it may take years to build back up to that level. However, if this is the management strategy that you have chosen then you need to sell at the set time. By doing this you may limit losses by beating the flood of animals that typically enter the market as the drought worsens.

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Managing Pastures in the Short-term

This article layouts a series of practices that together will improve drought tolerance of grazing systems in the long-term. In the short-term, the best thing that we can do to mitigate the impact of drought is to close the gates and feed hay in a sacrifice area BEFORE pasture become overgrazed. The worst possible scenario is that we simply open all the gates and allow cows to damage our entire grazing platform. So, keep the gates closed and feed hay on your weakest paddock. This will ensure that the remaining paddocks will be protected and ready to grow when rain finally comes! Last thing, it never hurts to ask the Good Lord for a little rain!

Managing Drought At A Glance

- ◆ Ensure that livestock have access to adequate amounts of clean water.
- ◆ Set a sustainable stocking rate (2 to 3 acres per cow-calf unit).
- ◆ Soil test and apply lime and fertilizer as needed.
- ◆ Implement rotational stocking prior to and during drought.
- ◆ Incorporate deep-rooted legumes into pastures.
- ◆ Incorporate warm-season perennials into grazing systems.
- ◆ Feed hay in a sacrifice area BEFORE pastures become overgrazed.
- ◆ Feed commodities to extend pasture and hay.
- ◆ Sell calves and in some cases cows before markets are flooded.



RECIPE

What's
Cooking

Triple Berry Crisp

Cooking spray	3 tablespoons white sugar	¾ teaspoon cinnamon
1¾ cup fresh blackberries	¾ cup brown sugar	½ teaspoon nutmeg
1¾ cup fresh blueberries	½ cup flour	½ cup butter
1¾ cup fresh strawberries	½ cup oats	

Preheat oven to 375 degrees F. Spray the bottom and sides of an 8-by-8 inch baking pan with nonstick cooking spray. **Wash** berries. Do not let berries soak in water. Hull strawberries by removing the stems and green tops. **Place** blueberries, blackberries and strawberries in a mixing bowl. **Sprinkle** berries with white sugar and **stir**. **Set** aside. In a separate, large bowl, **mix** the brown sugar, flour, oats, cinnamon and nutmeg. **Cut** in the butter until crumbly.

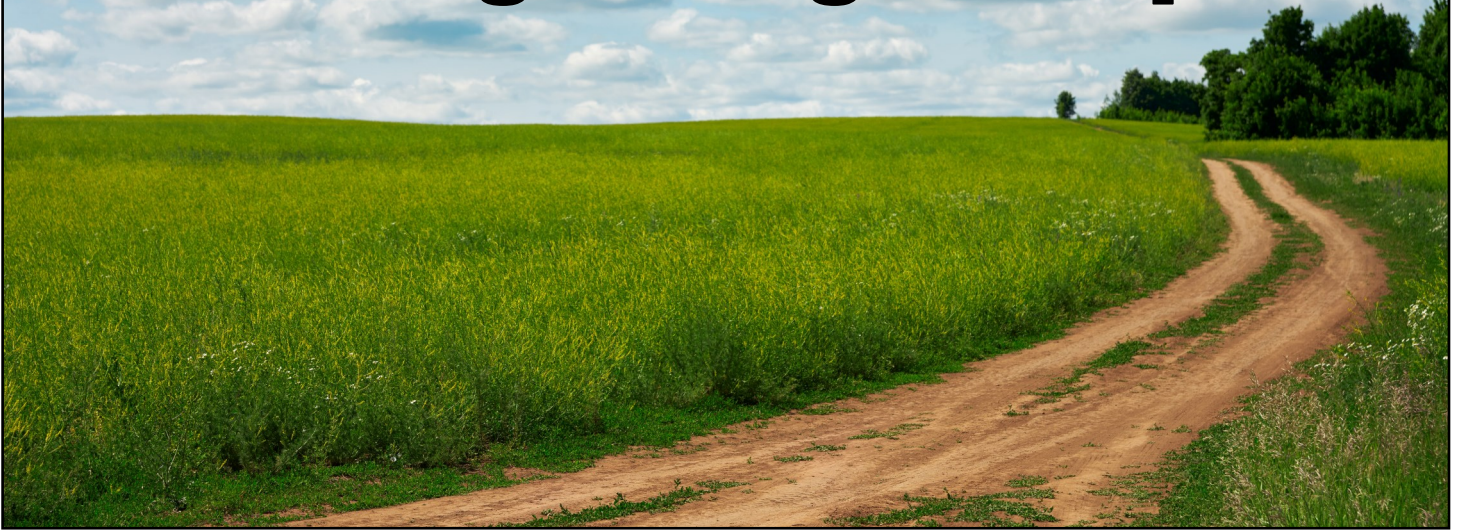
Pour berry mixture into baking pan. **Sprinkle** crumbly mixture over the berries. **Bake** for 30 minutes or until the top is golden brown.

Yield: 12, ½ cup servings

Nutritional Analysis: 160 calories, 6 g fat, 3.5 g saturated fat, 15 mg cholesterol, 0 mg sodium, 27 g carbohydrate, 3 g fiber, 19 g sugars, 2 g protein

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.

Seeding Forage Crops



I could bet around March, I can always count of at least 20 to 30 calls asking about seeding forages for livestock. However, the best time to seed cool season grasses and many legumes is actually in the fall. Each grass or legume species has different specifications on planting depth, seeding date, and seeding rate, but the first step to a great stand is a soil test. Remember the Clark County Extension Office offers free samples to residents of Clark County, and test usually take between one to two weeks to return.

After you have your soil test done and you know how much fertilizer or lime you need to add, it is time to start thinking about plantings. There are few different ways to plant, either by preparing a seed bed by tilling or my favorite, a no-till drill. The no-till drill is extremely effective if it is calibrated to the proper seeding depth, and seed is planted with minimal disturbance to the soil. Tilling the ground then cultipacking then broadcast seeding works well, but you may experience high amounts of erosion to your freshly till soil if rain occurs.

After having the soil tested, applying fertilizer, and knowing how you are going to plant, it is now time to start planting. Below is a list of common legumes and cool season grasses with planting dates, planting rates, and seeding depth.

- **Alfalfa:** Aug 1st-Sep 15th, 15-20 lbs seed per acre, and plant ¼ - ½ inches deep
- **Red Clover:** Aug 1st-Sep 15th, 8-12 lbs seed per acre, and plant ¼ - ½ inches deep
- **White Clover:** Aug 1st-Sep 15th, 1-3 lbs seed per acre, and plant ¼ inch deep
- **Fescue:** Aug 20th-Oct 1st, 15-25 lbs seed per acre, and plant ¼ - ½ inches deep
- **KY Bluegrass:** Aug 15th-Sep 15th, 10-15 lbs seed per acre, and plant ¼ inch deep
- **Orchardgrass:** Aug 20th-Sep 20th, 15-20 lbs seed per acre, and plant ¼ - ½ inches deep

Above is a quick guide for seeding dates, seeding rates, and seeding depths, but also speak with your seed consultant because some varieties of the same forages could have different specifications for planting.

If you have further questions please contact the Clark County Extension Office at 859-744-4682, and have a happy planting. Information was obtained from UK Cooperative Extension Service publication [AGR-18](#).

Maintaining Farm Ponds

Source: Forrest Wynne, KSU Extension aquaculture specialist;
UK Cooperative Extension Service Pesticide Applicator
Training Program

Ponds used for fishing must be stocked properly, limed and harvested correctly. For Kentuckians interested in maintaining fish ponds, a monthly management calendar is available from <http://ces.ca.uky.edu/westkentuckyaquaculture>. Before using any fertilizers or chemicals, be sure to check that they are safe for livestock if the pond is serving this dual purpose.



Livestock ponds less than 1/2 acre in surface area may provide little opportunity for managing sport fish populations due to their small size, and possible water quality problems. If a pond is constructed in acid soils it should be limed before filling. The pond lime requirement would be similar to the amount of lime used to raise the soil pH to that used for planting alfalfa. Fulfilling the soil's lime requirements is especially important before beginning a pond fertilization program.

Weed control is an essential part of pond management. Preventive measures include proper design. Banks should be sloped steeply so that very little water is less than two to three feet deep. To help prevent serious weed infestations you can do the following things:

- Most waters in Kentucky are sufficiently rich in plankton and other food organisms to support large fish without the need for supplemental fertilization.
- Maintain a good sod and grass cover around your pond. This will help prevent runoff and erosion. Do not fertilize the turf directly around the pond.
- If the water is used for livestock, fence the pond and water the animals from a stock tank below the dam and outside the fence. Animals will increase turbidity and fertility and erode the banks. Do not allow livestock access to a pond unless a gravity flow tank cannot be installed. In this case, fence the pond to allow limited access to a few locations around the shoreline. Consider providing a source of shade in pastures so animals can avoid extreme heat.
- Check septic tanks for possible leaching into the pond. Locate new septic drainage fields so that the nutrient-rich effluent will not reach your pond.

Do not permit runoff from chicken coops, feedlots and other areas to enter your pond. If this kind of runoff is occurring upstream from your pond, you should check with your county Board of Health to see if anything can be done about it.

If you have a weed problem mechanical controls can be used. Mechanical controls include hand removal, dredging of shallow pond areas or winter draw down may be effective in freezing and killing shoreline vegetation. Using rakes with ropes attached can work for removing some floating plants. But these methods can be impractical or uneconomical.

A biological control that can be used is triploid grass carp to control soft-stemmed vascular plants and branched algae. These fish are plant eaters and can help control pond vegetation. They need to be stocked at a rate of 5 to 20 fish or more per surface acre of water depending on the severity of the plant problem.

Chemical control methods also can be used. Weed identification is essential in determining which herbicide to use. When used properly, aquatic herbicides are effective in controlling vegetation without harming fish. There may be restrictions on water usage for a period of time after treating with a particular herbicide. Always check the herbicide label for possible restrictions.

For more information on pond construction and maintenance, contact the Clark County Cooperative Extension Service at 859-744-462.