Russell County Agriculture and Natural Resources April-May Newsletter

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College of Agriculture, Food and Environment
Cooperative Extension Service

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THINGS TO REMEMBER:

- Free Soil testing until funds are depleted. Limit 5 free test per Russell County land owner and/or household
- Remember to Like us on Facebook: Russell County Extension Office- ANR to stay up to date on events
- Russell County Extension Office will be closed Monday May 29th, 2023 in observance of Memorial Day
- Free Spring Hunting and Fishing Guides are now available at our office, as well as Cook Wild Recipe Cards
- Russell County Farmers' Market begins in June

Jonathan Oakes, CEA for
Agriculture and Natural Resources

Maintenance of Fans Impact Electric Bills

By Donna M. Amaral-Phillips and Morgan Hayes, from KY Dairy Notes, Spring 2023

Ventilation systems which circulate air within barns can account for a large proportion of an electric bill. Some estimate they may account for 20 to 25% of the total electricity usage, especially when barns are mechanically ventilated. Even with increased costs for electricity, the use of circulation fans for increased air speed are a necessary expense to reduce heat stress and to prevent the associated decreases in milk production, reproductive performance, and performance of future generations. When temperatures are greater than 65ºF, fans are needed to move air to help cool cows. The goal during the warm time of the year is to exchange the air in these facilities 40 to 60 times per hour with the air moving at the rate of 300 to 400 feet/min (3.5 to 5 mph) at the level of the cow. Poor or inadequate fan maintenance can decrease the overall airflow by fans as well as the efficiency of these motors by as much as 40%; thus, increasing electric bills unnecessarily. As little as 1/8 inch of dust on the fan blades can decrease the efficiency of the motor of the fan. Maintenance on fans should be completed not once, but 3 to 4 times per year, to improve/maintain the efficiency of the fan motors and air speeds within the facility. These steps include:

- Clean dust from the blades, motor windings, sensors and thermostats.
- Lubricate the fan according to the manufacturer's recommendations.
- Check the belts for wear and stretch. Belts should ride on top of the pulley. Replace belts as needed.
- Check the electrical cords and wiring for breaks or disintegration of wiring covering.
- Check that the thermostat is operating properly- i.e. comes on at the proper temperature (65ºF)
- Check the angle of each fan such that the air movement of the fan "blows' to the ground level below the next fan.

Forage Timely Tips: April

Posted on **March 31, 2023**

- Make sure hay equipment is ready for high quality May harvests.
- Graze cover crops using temporary fencing.
- As pasture growth begins, rotate through pastures quickly to keep up with the fast growth of spring.
- Creep-graze calves and lambs, allowing them access to highest-quality pasture.
- Finish re-seeding winter feeding sites where soil disturbance and sod damage occurred.
- As pasture growth exceeds the needs of the livestock, remove some fields from the rotation and allow growth to accumulate for hay or haylage.
- Determine need for supplemental warm season forages such as pearl millet or sudangrass.
- Flash graze pastures newly seeded with clovers to manage competition.

Alfalfa Weevil and Insecticide Effectiveness

Posted on March 28, 2023

By Ric Bessin, Entomology Extension Specialist

A few years ago, a bioassay of alfalfa weevil larvae collected in a central Kentucky alfalfa field showed low levels of control by a pyrethroid compared to other insecticide modes of action. In this particular instance, pyrethroids were used exclusively for alfalfa weevil control for well over a dozen years. For alfalfa weevil, there are only 4 different modes of action registered. When pyrethroids lose their effectiveness, only three modes of action are left to select from for this pest. So, growers must be careful to not overuse one mode of action such that the pest population in an area becomes tolerant to that insecticide, or even resistant. Once a population becomes resistant to an insecticide or a group of insecticides, the population may stay resistant for a long period of time, even if the insecticide is not used.

Figure 1. *Alfalfa weevil is a key pest of alfalfa and resistance to common insecticides has become a concern recently (Photo: Ric Bessin, UK*

Key IPM Strategy

IPM strategies can be used to prevent or delay the development of resistance. One key IPM strategy is to not use an insecticide unless the pest population exceeds the economic injury level on average across an entire proposed treatment area. This means the area needs to be monitored regularly (weekly) such that samples are taken to represent the entire field. Often with alfalfa weevil, there are pockets within the field that exceed economic thresholds, but the entire field is not above the threshold. In this instance, either the person should hold off, wait, and resample to determine if the threshold is crossed at a later time, or spot spray those 'hot' spot areas. By delaying

sprays or only spraying a portion of the field, natural enemies are preserved and the opportunity for natural control is increased.

Rotate Modes of Action

Proper pesticide management can also help prevent or delay resistance. If and when insecticide sprays are needed, it is important to rotate among modes of action. Repeated consecutive use of the same mode of action favors development of resistance to that mode of action. Rotating among different products within the same mode of action does not help and will also favor resistance. It is recommended to rotate modes of action with each new generation of the target pest. Since alfalfa weevil has one generation per year, this means that each year growers should rotate to a different mode of action from what was used the previous year. It is best to use 3 or more modes of action in rotation to fight the development of resistance.

Forage Timely Tips: May

- Start hay harvests for quality forage. Consider making baleage to facilitate timely cutting.
- Seed warm season grasses for supplemental forage once soil temperature is at 60 F.
- Clip, graze, or make hay to prevent seedhead formation.
- Rotate pastures as based in height rather than time.
- Consider temporary electric fencing to subdivide larger pastures and exclude areas for mechanical harvesting.
- Scout pastures for summer annual weeds and control when small.

Economic & Policy Update
E-newsletter Volume 23, Issue 3
Editors: Will Snell & Nicole Atherton
Department of Agricultural Economics
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Stocker Outlook for 2023

Author(s): Greg Halich and Kenny Burdine

Published: March 30th, 2023

Spring has officially arrived in the Commonwealth, which always brings questions about stocker profitability. Calf prices typically increase seasonally as we move into spring, but have increased at a larger-than-normal rate since the end of 2022. On a state average basis, a medium/large frame #1-2 steer in March has sold for over $40 per cwt more than that same steer in December. While it is likely that some stocker operators purchased calves early, to get ahead of the seasonal spring price increase, most will place calves into stocker programs in the coming weeks. At the time of this writing (March 21st), fall 2023 CME© feeder cattle futures were trading around $220 per cwt, which is roughly a $25 per cwt premium over the April contract. It's hard to remember a year with this much carry on the feeder cattle board between spring and fall. This suggests that heavy feeder cattle prices should increase throughout 2023, which partially explains the sharp increases being seen in calf prices. Still, high calf prices have many stocker operators questioning whether profit opportunities will exist for 2023.

The purpose of this article is to assess the likely profitability of summer stocker programs for 2023 and establish target purchase prices for calves based on a range of return levels. While it is impossible to predict where feeder cattle markets will end up this fall, producers need to estimate this and not rely on the current price (March) for 750-850 lb feeder calves. The fall CME© feeder cattle futures price (adjusted for basis) is the best way to estimate likely feeder cattle prices for fall. Grazing costs including pasture costs, veterinary and health expenses, hauling, commission, etc. are estimated and subtracted from the expected value of the fall feeders. Once this has been done, a better assessment can be made of what can be paid for stocker cattle this spring in order to build in an acceptable return to management, capital, and risk.

Key assumptions for the stocker analysis are as follows: 1) Graze steers April 1 to October 15 (197 days), 1.4 lb/day gain (no grain feeding), 2% death loss, and 7% interest on the calf. The interest rate used in this analysis may seem high for producers who are self-financed or have very low interest rates, but is likely pretty close for those going through traditional lenders. Given these assumptions, sale weights would be 775 lbs and 875 lbs for 500 lb and 600 lb purchased calves, respectively. Using a $220.50 CME© futures contract price for October 2023 to estimate sale price, a 775 lb steer is estimated to sell for $2.11/b and an 875 lb steer is estimated to sell for $2.08/lb. This estimate uses a -$10 per cwt basis for an 800 lb steer and a $3 per cwt price slide. These sale prices

are also based on the assumption that cattle are sold in lots of 40 or more head. Stocker operators who typically sell in smaller lots should adjust their expected sale prices downward accordingly.

Estimated costs for carrying the 500 and 600 lb steers are shown in Table 1. Stocking rates of 1.0 acre per 500 lb steer and 1.2 acres per 600 lb steer were assumed in arriving at these charges. Most of these are self-explanatory except the pasture charge, which accounts for variable costs such as bush-hogging, fertilizer, seeding clovers, etc., and is considered a bare-bones scenario. Sale expenses (commission) are based on the assumption that cattle will be sold in larger groups and producers will pay the lower corresponding commission rate. However, producers who sell feeders in smaller groups will pay higher commission rates which could exceed $50 per head based on the revenue assumptions of this analysis. Any of these costs could be much higher in certain situations, so producers should adjust accordingly.

Table 1: Expected Variable Costs 2023

	500 lb Steer	600 lb Steer
Pasture Charge	$30	$36
Vet	$25	$25
Interest	$50	$56
Death Loss	$27	$30
Sale	$18	$18
Haul	$15	$18
Mineral	$13	$15
Other (water, etc)	$11	$13
Total Variable Costs	***$189***	***$211***

Note: Interest and death loss varies slightly by purchase price.

Target purchase prices were estimated for both sizes of steers and adjusted so that gross returns over variable costs ranged from $100-$200 per head. Normally we would use a range of $50-$150 per head, but we feel that given the high feed prices this will be more representative this year. This gives a reasonable range of possible purchase prices for each sized calf this spring. Results are shown in Table 2. For 500 lb steers, target purchase prices ranged from $2.50 to $2.69 per lb. For 600 lb steers, target purchase prices ranged from $2.35 to $2.51 per lb. When targeting a $150 per head gross profit, breakeven purchase prices were $2.59/lb for 500 lb steers and $2.43/lb for 600 lb steers.

As an example of exactly how this works for a 500 lb steer targeting a $150 gross profit:

775 lbs steer x $2.11 (expected sale price)	*$1,635*
Total Variable Costs	*- $188*
Profit Target	*- $150*
Target Purchase Cost	*$1297*

Target Purchase Price = $1297 / 500 lbs = $2.59 / lb

Table 2: Target Purchase Prices for Various Gross Profits 2023

Gross Profit	500 lb Steer	600 lb Steer
$100	$2.69	$2.51
$125	$2.64	$2.47
$150	$2.59	$2.43
$175	$2.55	$2.39
$200	$2.50	$2.35

Notes: Based on costs in Table 1 and sales price of $2.11/lb and $2.08/lb for 775 lb and 875 lb sales weight respectively for 500 lb and 600 lb purchased steers.

For heifers, sale price for heavy feeders will be lower than comparably sized steers and they will not generally gain as well. In this analysis, we assumed the price discount for these heifers is $12 per hundredweight lower than the same weight steers and we assumed heifers would gain 10% slower than steers. With these assumptions, purchase prices would have to be $0.26/lb lower for 500 lb heifers and $0.24 lower for 600 lb heifers compared to the steer prices found in Table 2. Thus, when targeting a $150 per head gross profit, breakeven purchase prices were $2.33/lb for 500 lb heifers and $2.19/lb for 600 lb heifers.

Your cost structure may be different from that presented in Table 1, and if so, simply shift the targeted gross profit up or down to account for this. If your costs are $25 higher per calf, then you would shift each targeted profit down by one row: For example, you would use the $175 gross profit to estimate a $150 gross profit if your costs were $25 higher. Another way to evaluate this is that a $1 increase in costs would decrease the targeted purchase price by $0.20 per cwt for 500 lb steers and $0.17 per cwt for 600 lb steers.

It is important to note that the gross profits in Table 2 do not account for labor or investments in land, equipment, fencing, and other facilities (fixed costs). Thus, in the long-run, these target profits need to be high enough to justify labor and investment, as well as a management return. Typically, by the time this article is written in late-March, calf prices are approaching levels that would place returns on the upper end of the profit range analyzed. While there is a lot of variation in the price of calves across Kentucky right now, a lot of calves are selling well below many of the target purchase prices estimated in this analysis. This is all the more reason that stocker operators should carefully think through their budgets and make rational purchasing decisions.

There is a tendency for calf prices to reach their seasonal price peak when grass really starts growing in early spring. There is little reason to think this won't happen in 2023, which will result in tighter expected margins for stocker cattle placed in the upcoming weeks as those calf prices increase. Two other factors are worth discussion that may impact how strong the calf market gets this spring. First, CME© feeder cattle futures are suggesting that heavy feeder cattle prices will be much higher this fall than what we are seeing today. So, a stocker operator that was using the current market, rather than the futures-based approach taken in this article, would bid much less aggressively on calves this spring. Secondly, feed prices are so high that feedlots likely have almost no interest in purchasing these light calves this spring. That would mean less competition for calves in the marketplace and may prevent calf prices from getting as high as they would in a more normal feed price environment. While there is no way to know for sure what the next few weeks will bring, there could be significant opportunities for stocker operators to place calves at a favorable margin this spring.

Finally, the placement of calves into stocker programs represents a significant cost and there is always a great deal of uncertainty about fall sale price. For this reason, stocker operators should also consider risk management to protect their potential returns. Forward contracts, futures and options have long been utilized for price risk management and remain viable strategies today. However, there has been a considerable increase in the use of Livestock Risk Protection (LRP) insurance over the last few years. LRP works similar to a put option in that it provides downside price protection (for a premium), but also allows the producer to capitalize on rising prices. However, it can be purchased in most any quantity, so producers are not tied to 50,000 lb contract sizes as they would be with futures and options strategies. Some recent changes to LRP insurance have made it more attractive, including increases in subsidy levels and no longer requiring premiums to be paid up front. Regardless of what risk management strategy is utilized, time spent considering price risk management is likely time well spent in these volatile markets. The best way to ensure profitability is to budget carefully and to manage downside price risk.

*Greg Halich is an Associate Extension Professor in Farm Management Economics for both grain and cattle production and can be reached at **Greg.Halich@uky.edu** or 859-257-8841. Kenny Burdine is an Extension Professor in Livestock Marketing and Management and can be reached at **kburdine@uky.edu** or 859-257-7273.*

Recommended Citation Format:

Halich, G. and K. Burdine. "**Stocker Outlook for 2023**." *Economic and Policy Update* (23):3, Department of Agricultural Economics, University of Kentucky, March 30, 2023.

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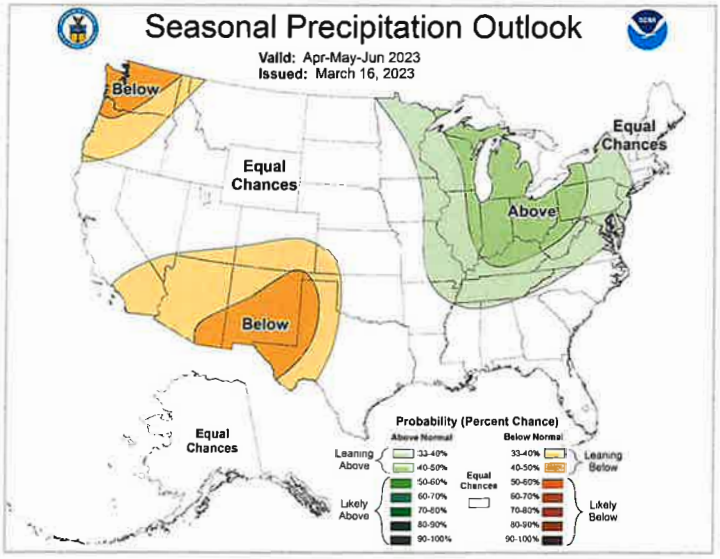
Spring Outlook for the State of Kentucky

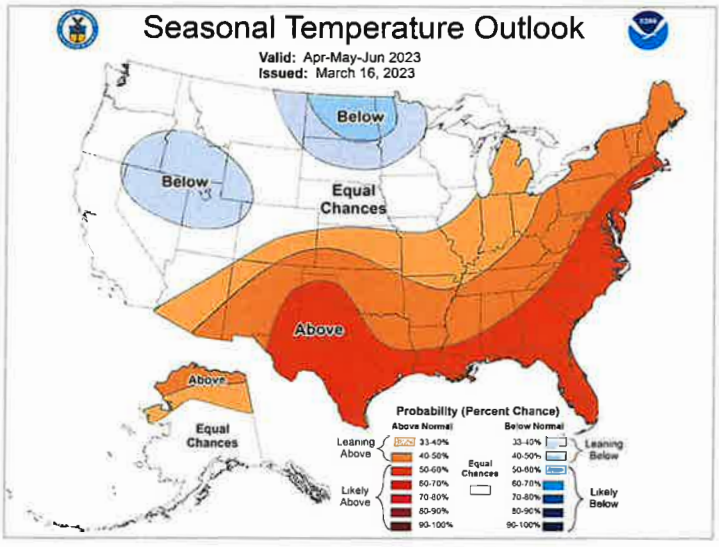
By Simone Lewis - National Weather Service Charleston, WV

The Official Spring Outlook (April - June) for the state of Kentucky was released from the Climate Prediction Center on March 16th, 2023.

Keep in mind, the colors on the graphics reflect a numbered "probability", or percent chance, of above or below normal values. It does NOT mean that the darker the color the more above normal or below normal we will be, but rather a better probability (or chance) of being above or below normal. Also, this is an average across a three month period, which means there could still be periods of warmer/colder than normal temperatures or above/below normal precipitation.

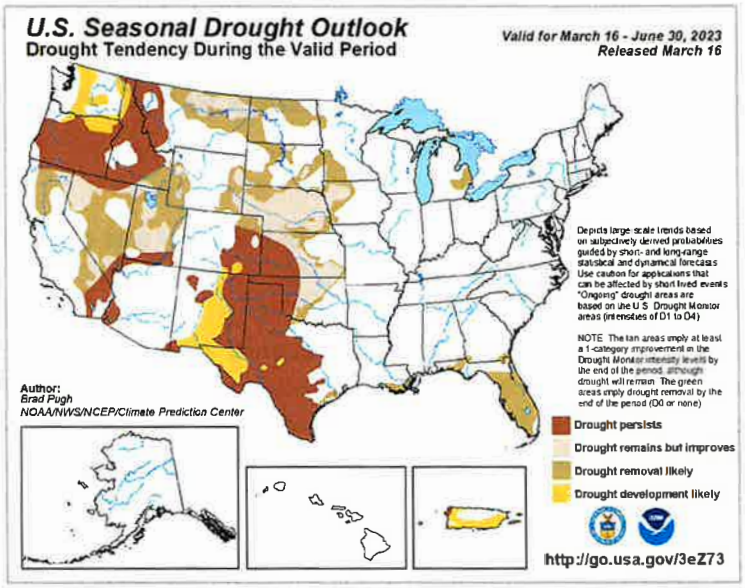
Here are the spring precipitation and temperature outlooks for the state of Kentucky:

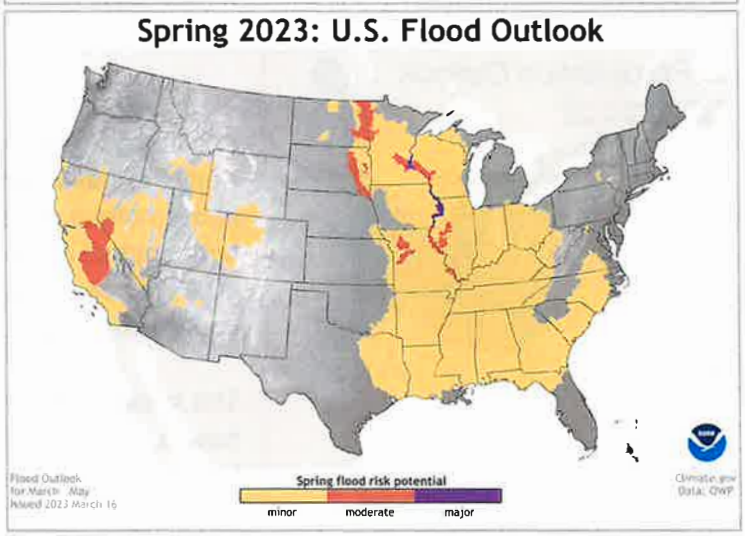




According to the images, the state of Kentucky has a 40% to 50% chance of above normal precipitation across the northern half of the state, and a 33% to 40% chance of above normal precipitation across the southern half.

The state of Kentucky is also predicted to have a 40% to 50% of above normal temperatures across the eastern half of the state, and 33% to 40% chance across the western portions of the state.





In addition, drought is not expected to develop across the state, but there is at least a 50% of minor flooding during the spring season.

Kickin' Greens

2 tablespoons olive oil
8 slices turkey bacon, cut into bite-sized pieces
1 large onion, chopped
6 cloves garlic, minced
2 pounds fresh greens (collards, turnip or mustard)
3 cups low sodium chicken broth
½ teaspoon black pepper
¼ teaspoon red pepper flakes, or to taste

Heat olive oil in a large stockpot over medium high heat. **Cook** turkey bacon in hot oil until crisp. **Add** onion and garlic. **Cook** until onion is tender, **stirring** occasionally. **Add** greens and **stir** until greens start to wilt. **Add** chicken broth, black pepper and red pepper flakes. **Cover**, reduce heat to low and **simmer** 25-30 minutes, or until greens are tender.

Yield: 8, 1 cup servings

Nutritional Analysis: 110 calories, 6 g fat, 1 g saturated fat, 0 g trans fat, 10 mg cholesterol, 9 g carbohydrate, 5 g fiber, 2 g sugars, 7 g protein.

Kentucky Greens

SEASON: May through June and September through November

NUTRITION FACTS: Greens are a source of vitamins A and C. A half-cup serving contains 20 percent of calcium needed daily. Greens are low in calories, with 20 to 30 calories per half-cup serving.

SELECTION: Look for bright green leaves that are fresh, young, moist and tender.

STORAGE: Store greens in the coldest part of the refrigerator for no more than 2 to 3 days.

PREPARATION: Wash greens well in warm water. Remove roots, rough ribs, and center stalks if they are large or fibrous.

To cook: Add washed greens to a medium-size saucepan with ¼ inch water. Bring water to a boil. Cover and cook until tender. Leafy greens cook in 1 to 3 minutes. Crisp and tender greens may require 5 to 10 minutes. Seasonings and herbs will enhance the flavor without adding salt. Try allspice, lemon, onion, nutmeg or vinegar.

To freeze: Wash young, tender green leaves thoroughly and cut off woody stems. Blanch greens for 2 to 3 minutes, cool, drain and package. Leave ½ inch headspace, seal, label and freeze. Greens can be stored for up to 1 year in the freezer.

KENTUCKY GREENS
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
October 2018

Source: www.fruitsandveggiesmatter.gov

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers market, or roadside stand. http://plateitup.ca.uky.edu

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