

McLean County Agriculture



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Cooperative Extension Service

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Fall 2022

By:

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Some Early Thoughts On This Fall's Soil Fertility Management



SOIL TESTING for the next crop is important

this fall. The summer season's drought, after spring wetness (with compaction issues), is causing lower, more variable, corn and soybean yields. Lower grain yield means lower nutrient removal, but this is not perfectly predictable from a yield monitor. Drought affected grain is usually nutrient rich compared to rainy season grain. More corn acres will be harvested for silage rather than grain and nutrient removal is greater with silage. Soil test 'problem' fields/areas identified earlier this season. If you don't do your own soil sampling, you might want to book sampling services early – this year there are more questions that need samples to inform decision-making.

SOIL ACIDITY hurts root activity – a bigger problem in droughty seasons. Once soil test results are in, take a close look at soil pH. If needed, and if weather permits, lime should always be applied in the fall. Good quality lime takes time to dissolve and cause the carbonates to neutralize soil acidity.

DECIDING WHETHER TO APPLY fall nutrients, especially for corn and soybean, is more difficult this year. The decision generally depends on the target crop (wheat/forages vs. corn/soy); economics/value of fertilizer, time, and equipment; and the soil test value (low values mean higher recommended rates – better nutrient use efficiency when needy soils are fertilized to better match crop demand = spring for summer crops like corn and soybean). Fertilizer prices are lower (except for potash) now, but still high relative to prior years.

WHEAT follows corn in many areas. This year, most wheat will not need fall nitrogen (N). Lower corn yield causes less N removal. Tissue N will be higher in corn residues, giving greater N availability as residues decompose. Many grain producers have fields in forage production. Likely under fertilized this year, these crops/fields may really need some fall fertility to improve stand health, winter hardiness, and both forage quality and stand competitiveness with weeds next spring.

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A WINTER COVER CROP can contribute. In addition to protecting against soil erosion (especially with less full-season soy residues this year), cover crops cause greater nutrient retention against fall-winter losses. One ton of rye dry matter (good stand, 12 to 18 inches tall) contains about 35 lb N, 45 lb K₂O, and 10 lb P₂O₅. These nutrients won't all be immediately available with rye termination next spring, but $\$32(\text{N}) + \$33(\text{K}_2\text{O}) + \$7(\text{P}_2\text{O}_5) = \72 worth of nutrients, considering the most recent average retail fertilizer price levels (<https://www.dtnpf.com/agriculture/web/ag/crops/article/2022/08/02/summer-slump-retail-fertilizer>), are retained.

FALL NUTRIENT SOURCE DECISIONS might also be difficult. This fall, the need for fertilizer N will be significantly lower. Fall application of N, regardless the nutrient source, will be less economical and losses are more likely, given likely greater fall background soil N levels. Nutrient sources containing N and other important nutrients (DAP, 18-46-0; MAP, 11-52-0; poultry litter) are usually priced considering their N content, making them less desirable for fall application to wheat, corn, and soy acres this fall. DAP, 18-46-0, is a popular fertilizer P source and the most recent DTN survey average retail price was \$1005/ton. Urea, 46-0-0, was \$836/ton (\$0.909/lb N). This means that the 360 lb N in one ton of DAP was worth about \$327, and the phosphate value was \$678/ton DAP (\$0.737/lb P₂O₅). About a third of the price of DAP is in the value of N it contains – N that is less likely to be needed this fall. You might ask your fertilizer retailer to bring in triple super phosphate (0-46-0) so that you can meet your fall phosphate needs without losing money on unnecessary N.

FERTILIZER PLACEMENT (banding) improves fertilizer P and K use efficiency, relative to broadcast fertilizer. AGR 1 (<http://www2.ca.uky.edu/agcomm/pubs/agr/agr1/agr1.pdf>) indicates that in spring, if soil test P and/or K are very low or low, one-third to one-half the recommended rates of P₂O₅ and/or K₂O for corn can be used if it is banded 2 to 4 inches from the row. Relevant research for Kentucky soils is not available, but I'd estimate that precision (GPS guided) banding fall applied P and K would similarly improve their use efficiency relative to fall broadcast P and K. Precision fall banding would likely be superior to spring broadcasting, though not as good as spring banding, as long as corn is planted 2 to 4 inches from the banded P and K. Precision fall placement anticipates precision spring planting.

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Check out David Fourqurean, Vicki Shadwick and Jay Stone Kentucky Ag Matters Podcast

Kentucky Ag Matters will discuss timely topics and issues related to Agriculture while providing educational information to Farmers, Ranchers, and Consumers.

Podcast Link:

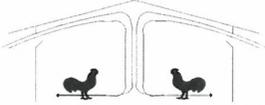
<https://feed.podbean.com/jstonet/feed.xml>

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Poultry Housing Tips

A Dozen Cold Weather Poultry House Moisture Control Facts

Volume 24 Number 10

October, 2012



Controlling house moisture levels during cold weather can be a real challenge at times. The birds are continually adding moisture to the air as well as the litter which can only be controlled by exchanging the warm, moisture-laden inside air with cooler, drier outside air. If air exchange rates are too low, over time moisture builds up in the litter and the production of ammonia will increase, as will foot pad and leg problems. If too high, houses may become dusty; but of potentially greater concern, heating costs can skyrocket.

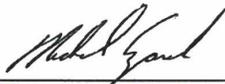
The following are a few facts related to bird moisture production and cold weather ventilation which may help make poultry house moisture control a little less of a mystery this upcoming winter:

- 1) Roughly 20% of the water consumed by a broiler is retained. The remaining 80% needs to be removed from the house daily to prevent the buildup of moisture within a house.
- 2) For every pound of feed a bird eats, it will drink roughly one quart of water. This relationship is very consistent from the first to the last day of a flock.
- 3) Water consumption increases seven fold over the first 14 days of a flock. This means that in order to control house moisture levels, minimum ventilation rates should increase roughly seven fold as well.

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- 4) Due to increased growth rates, if a producer wants to control house moisture levels, minimum ventilation rates need to be roughly 20% higher than they were ten years ago.
- 5) By seven weeks of age, the typical broiler has added roughly two gallons of moisture to the air and litter in a house. If none of the moisture were to be removed, there would be four inches of standing water in the typical house.
- 6) Under typical brooding conditions (90°F, 50% Rh) there are roughly 13 gallons of water suspended in the air. If the outside temperature is 30°F (50% Rh), there are only two gallons in the same volume of air.
- 7) During brooding when house temperatures are in the nineties, removing one gallon of water from a house requires the exchanging of roughly 7,000 cubic feet of inside air with outside air. If we assume a 36" fan moves 10,000 cubic feet of air in one minute, the removal of one gallon of water would require a 36" fan to operate 45 seconds.
- 8) Heating 10,000 cubic feet of air from 30°F to 90°F requires the heat produced by burning of approximately 0.1 gallons of propane. If propane costs \$2 a gallon, it would cost roughly \$0.14 to remove one gallon of water from a house during brooding.
- 9) During cold weather, daytime temperatures are typically 20°F or more warmer than nighttime temperatures. As a result, whereas at night it may cost about \$0.14 to remove a gallon of water from a house (60°F temperature differential), during the day the cost would be reduced to only \$0.09 (40°F temperature differential). Basically, it costs 40% less during the day to remove a gallon of water from a house than at night, so ventilation rates should be maximized during the day to help keep heating costs to a minimum.
- 10) During brooding, if the relative humidity is 50%, condensation will form on any surface (wall, ceiling, fan) that is 20°F cooler than air temperature. But, if the relative humidity is 70%, a house surface temperature needs to be only 10°F cooler than air temperature for condensation to form.
- 11) If it is 90°F and 50% Rh on the brooding end of a house and only 50°F on the nonbrooding end, for every 1,000 cubic feet of air pulled into the nonbrooding end from the brooding end, 0.07 gallons of water will condense on to the ceiling, walls, equipment on the nonbrooding end of the house. If a producer is operating a 48" fan, one minute out of ten (2,000 cfm on average) over a 24 hour period, 200 gallons of water could potentially be deposited on the nonbrooding end of a house. If it is 70°F, essentially no water would be deposited on the nonbrooding end of the house.
- 12) During the first week of a flock, roughly 2.5 million cubic feet of air need to be exchanged each day to control house moisture levels. By the end of flock this increases to nearly 40 million cubic feet.



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Beef Bash 2022

Recovering and Rebuilding from a natural disaster

Date: Thursday October 20th,
2022

Time: Registration 8:30 AM CT
Program starts at 9 AM CT

Location: The beef unit at the
University of Kentucky Research
and Education Center.

348 University Dr
Princeton, KY 42445
*Signs will be posted to the beef unit



Vendor spots are still available. For more
information email: Katie.VanValin@uky.edu

MAKE PLANS TO JOIN US!

Commercial vendors

Educational exhibits and
demonstrations

University of Kentucky, College of
Agriculture Food & Environment
personnel and administrators

No cost to attend
Lunch available to purchase

McLean County Poultry Expo and Trade Show



Michael Czarick, University of Georgia Poultry Specialist



On August 30th, 2022, McLean County Cooperative Extension had it's McLean County Poultry and Expo Trade Show . There were 24 vendors and 225 people signed up to attend. The speaker was Michael Czarick, University of Georgia Poultry Specialist and UGA Extension Engineer. Michael Czarick spoke about winter ventilation and humidity. If you missed the McLean County Poultry Trade Show and Expo you can call the extension office at (270)273-3690 to get a print out of Michael Czarick presentation.

Pictures by Owensboro Messengers- Inquirer



HONEY MUSTARD CHICKEN TENDERS



This institution is an equal opportunity provider. This material was partially funded by USDA's Supplemental Nutrition Assistance Program — SNAP.

- *1/3 cup low-fat mayonnaise*
 - *2 tablespoons honey*
 - *2 tablespoons mustard, any type*
 - *1/2 teaspoon garlic powder*
 - *1/2 teaspoon paprika (optional)*
 - *1/4 teaspoon black pepper*
 - *1 1/2 pounds uncooked chicken tenders or boneless chicken breast, sliced into strips*
 - *Nonstick cooking spray*
 - *2 cups panko breadcrumbs*
1. Wash hands with warm water and soap, scrubbing for at least 20 seconds.
 2. In a medium bowl, combine mayonnaise, honey, mustard, garlic powder, paprika (optional), and black pepper. Stir well.
 3. Trim any fat from chicken. After handling raw poultry, scrub hands with warm water and soap, for at least 20 seconds.
 4. Using tongs, add chicken to sauce in bowl. Turn pieces over to coat all sides with sauce.

5. Refrigerate chicken for 30 minutes, turning over once or twice.
6. Preheat oven to 400 degrees F.
7. Lightly coat a baking sheet pan with nonstick spray.
8. Place breadcrumbs in a shallow bowl. Lift chicken out of bowl one piece at a time, keeping a good layer of sauce on the chicken. Put chicken on the breadcrumbs and turn to coat all sides. Discard any remaining sauce.
9. Place chicken pieces on pan in a single layer.
10. Bake for 15 minutes. Remove pan from oven and carefully turn chicken pieces over.
11. Return pan to oven and bake 10 more minutes, or until a thermometer inserted into the thickest piece reads 165 degrees F.
12. Store leftovers in the refrigerator within 2 hours.

Makes 6 servings

Serving size: 4 ounces

Cost per recipe: \$9.45

Cost per serving: \$1.58

Nutrition facts

per serving:

270 calories; 5g total fat; 1.5g saturated fat; 0g trans fat; 80mg cholesterol; 280mg sodium; 27g total carbohydrate; 0g dietary fiber; 7g total sugars; 0g added sugars; 29g protein; 0% Daily Value of vitamin D; 0% Daily Value of calcium; 10% Daily Value of iron; 0% Daily Value of potassium.

Source: Martha Yount, Nutrition Education Specialist, University of Kentucky Cooperative Extension



SALE TECHNIQUE

Cattle will be co-mingled into the following contemporary groups:

Breed Type:

Black (Angus based)
Black Cross
Cross-bred
Earred

Frame and Muscle:

Medium to Large Frame #1
Medium to Large Frame #2
Small Frame #1

Weight:

Minimum weight will be 500 pounds with groups broken at 75-pound intervals.

All others will be classified as outs, including stags, and CPH tags will be removed from the outs.

For more information or to register, contact your County Extension Agent...

In Kentucky

Daviess County - (270) 685-8480
Hancock County - (270) 927-6618
Henderson County - (270) 826-8387
Hopkins County - (270) 821-3650
McLean County - (270) 273-3690
Muhlenberg County - (270) 338-3124
Ohio County - (270) 298-7441
Union County - (270) 389-1400
Webster County - (270) 639-9011

In Indiana

Spencer County - (812) 649-6022
Perry County - (812) 547-7084

KBN Facilitator

Ben Lloyd - (270) 993-1074

Green River Area CPH60 Pre-Conditioned Cattle Sale

December 1, 2022



Kentuckiana Livestock Market

Sponsored by:

Green River Area
Beef Improvement Group

Green River Area Cooperative Extension
Daviess County Cattlemen's Association
Kentucky Beef Network

With support of the
Kentucky Department of Agriculture



Trade names were decided by the Green River Area CPH Sale Committee. No endorsement by the Cooperative Extension Service is intended, nor criticism implied of similar products that are not named.

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GREEN RIVER PRE-CONDITIONED CATTLE SALE UPCOMING DATES

February 16, 2023—Heifers & Steers

April 27, 2023—Heifers & Steers

August 10, 2023—Heifers & Steers

December 7, 2023—Heifers & Steers

TERMS

- \$1.00/head consignment fee will be held by sale barn.
- Kentuckiana Livestock marketing fee will be 3.00% commission of your total sale value.
- CPH60 ear tag will be no cost, available at Green River Area Extension offices.

GREEN RIVER CPH60 SALE

- All calves must be weaned a minimum of 60 days prior to sale.
- It is mandatory that all cattle have free choice of required analysis mineral.
- All calves must be able to eat from a feed trough or bunk and drink water from a tank or automatic waterer.
- All surgery (castration and dehorning) should have been done and completely healed prior to sale.
- All calves must be completely dehorned and healed.
- Dewormed with Dectomax—Zoetis or Long Range—Merial endectocide. Must be applied no more than 60 days prior to sale.
- Vaccinated and boosted for Four-Way Respiratory (IBR, PI₃, BRSV, BFD): 1st Vaccine – Cattle Master—Zoetis or Bovishield Gold 5—Zoetis; Booster– Bovishield Gold 5—Zoetis. The booster vaccine must be given a minimum of 14 days prior to sale and be a modified live vaccine (BRSV may be killed or MLV). The earliest any vaccine should be given is not more than 90 days prior to sale.
- Vaccinated for Pasturella and Clostridial 7-Way using One Shot Ultra 7—Zoetis.
- Each consigner will certify that health and management practices were implemented and provide receipts of medication purchases.
- Cattle that are yearlings and that have been weaned 90 days by the time of the sale will not be required to re-vaccinate if all health standards were completed previously, only dewormed.
- Heifers are guaranteed open at time of sale and steers are guaranteed not to be bulls!! Seller agrees to reimburse buyer \$200.00 for pregnant heifers or intact bulls. All claims will be properly verified by a veterinarian within four (4) months of sale.
- Calves must have access to a free choice mineral supplement which contains a minimum of 1400 ppm copper (no copper oxide), 26 ppm selenium, 3000 ppm zinc, 3000 ppm manganese, and a salt content of 18-25%.



OBJECTIVE

To provide an opportunity for producers to group cattle into marketable lot sizes, to maintain identification of health and management practices, and to provide a positive reputation toward calves marketed from the Green River Area of Kentucky.

