

Greg S. Halich

Associate Extension Professor

Date Appointed: 6-12-2006

DOE: 87% Extension, 13% Instruction

Extension Program Summary

Focus Area #1 – Livestock/Forages Management:

My most significant programming accomplishments in this area have been in grazing management including the evaluation of extended season and specialty grazing, evaluating stocker and backgrounding opportunities, evaluating forage-finished beef systems for Kentucky, optimizing nitrogen use in hayfields and pastures, and biofuel profitability and impacts.

Principal Collaborators: *Ray Smith* (Plant and Soil Sciences), *Kenny Burdine* (Agricultural Economics), *Jeff Lehmkuhler* (Animal Science and Food Science), *Fred Martz* (Animal Science, University of Missouri), *Gregg Rentfrow* (Animal Science and Food Science).

Indicators of Program Impact:

General Cattle and Grazing:

Joel Oney Regional VP for Farm Credit on Economic and Policy Update article: “Excellent information in the attached article on winter backgrounding. Thanks for the information. As you can see below, I have shared with my team”. Leigh Maynard: “Great Issue (Economic Policy Update Feb 2013). I bet the nitrogen vs. clover piece will have an especially big impact”. Kevin Laurent (Senior Extension Associate at Princeton) in response to this same article: “Great article!...Very timely, I will use this tonight [at a meeting]”. Jim Gerrish writing in a national grazing magazine: “Greg is a very practical and pragmatic ag economist with his own stocker operation on the side, so he has skin in the game as well as thoroughly understanding economic theories”. Jim retired (early) as a researcher at the University of Missouri’s Forage System’s Research Center and now does grazing management consulting throughout the world. His book “Management Intensive Grazing” is probably the most popular (and practical) book ever written on the subject. Jim and I presented together at a four-day series of grazing meetings in Virginia in January 2013. He devoted his entire March 2013 column in the Stockman Grassfarmer to summarize my January presentation (grazing costs, hay feeding costs, fixed costs of haymaking, fertilizer value of hay, labor in hay and grazing) and how they supported recommendations he has given over the years. Invited speaker at the Virginia Forage Conference (above), Appalachian Grazing Conference (grazing profitability), and upcoming series of grazing meetings in North Carolina.

Profitability of Nitrogen Applications for Stockpiling Tall Fescue Pastures and Profitability of Spring Hayfield Nitrogen Applications: Frank Tomeo Casey County cattle farmer: “I read the publication with great interest. Should be required reading ☺ It sure helps clarify some of the decisions that must be made regarding profitability of nitrogen applications”.

Summary results used in West Virginia, Virginia, Missouri, and Maryland. Yearly summary results featured on UK Forage website and “Forage News”.

Pasture-Based Beef Finishing: Advising and working closely with Berea College in their transition from grain-finished to grass-finished cattle on their college farm. Garry Lacefield (UK

agronomy specialist): “thank you so much for the excellent presentation [*Production and profitability of pasture-based finishing cattle*] at the 18th Forages at the Kentucky Cattleman’s Association. Based on my personal evaluation, attendance and feedback this was our best in 18 years”.

Focus Area #2 – Grain Crop Management:

Programming areas include: 1) Projecting profitability and integrating with crop insurance and Farm Bill programs, 2) Leasing issues, 3) Updating crop budgets, and 4) Farm Bill programs.

Principal collaborators: *Chad Lee* (Plant and Soil Sciences), *Cory Walters* (Agricultural Economics), *County ANR agents*, *Multiple KFBM specialists* (Agricultural Economics).

Indicators of Program Impact: Presented at the Early Bird Meetings Nov 18-20, probably the most important UK meetings each year related to grain crops. There were 6 total presentations at each of the three meetings. Participants were surveyed on the most helpful presentation. My presentation got 52%, 44%, and 42% at the three locations. The next highest was around 20% at each meeting. According to Rankin Powell (ANR agent Union County) one 15,000 acre grain farmer in his county told him my presentation saved him \$250,000 in renegotiated land rents. Monte Parrish Henderson County grain farmer to Leigh Maynard: “I contacted Dr. Halich and literally within 5 minutes he sent me his presentation. I wanted to communicate to you how much I appreciate his work and allowing me to review his presentation. Most importantly though, I wanted you to know that I used his presentation in a meeting with my landlords as the basis for determining a new cash rental agreement... [The landlords] were so impressed with the information that Dr. Halich had assembled that they asked for a copy... Please continue the good work as I rely on extension information often and in numerous ways...” *Note that this email ended up being forwarded by Jimmy Henning to the Director of NIFA who replied to the college administration.* Bill Lambert Union County grain farmer: “Thank you for an excellent presentation in Morganfield KY 7/29/14. It was well thought out, timely, informative and a definite help to all of us cash grain farmers!”

Focus Area #3 – General Farm Management:

Programming areas include: 1) Custom Machinery Rates, 2) Fixed-cost estimation training, 3) Land value and cash rent survey, 4) Precision Agriculture, and 5) FSA borrower-training

Principal collaborators: *Multiple KFBM specialists* (Agricultural Economics), *County ANR agents*.

Indicators of Program Impact:

Custom Machinery Rates: Rankin Powell, ANR agent in Union County has documented that this is the most requested extension publication in his county. Rush Midkiff (KFBM specialist): “Just sent someone another machinery rate publication. Probably the most requested item I get”. Kenny Perry (ANR agent Graves County): “I just spoke to one of my better young farmers...He told me that he has a short-cut on his phone to the custom machinery rate pub... He said “*I use that thing all the time. When people call, I just pull it up on my phone and give them an estimate. It’s great*””. Highlighted in the Kiplinger Agriculture Letter, Forage and Hay Grower Magazine, the Farmland Investor Letter, and AgWeb.

Fixed Cost Estimation Training: Jerry Ralston Barren County livestock farmer: "... you really enlightened, I believe, all of us by getting us to think out of the box and realize that spending big money is not necessarily the best and only way".

Land Value and Cash Rent Survey: Results used by farmers, landowners, ANR agents, farm management companies, institutional investors, and state/federal government agencies including the Kentucky FSA Farm Loan Market Advisory Committee. Landowner Charles Willingham: "I read your ANR Agent Land Value and Cash Rent Survey on farmland values recently. The information was very informative and gave a clear picture of value throughout Kentucky".

Precision Agriculture: Tom Bechman from the Indiana Prairie Farmer attended a regional meeting where I presented on this topic (in conjunction with Clint Hardy, ANR agent Daviess County) and I later worked with him on a summary article for his magazine. The article went viral and was later reproduced in at least six other states. I received dozens of emails from grain farmers around the country requesting custom scenario evaluations for their operations. Harold Sutton from Jefferson County Ohio: "Thank you so very much. This is just the icing on the cake. With the savings I should see knowing where I am at spraying and spreading fertilizer not to mention stress, I think GPS is a good investment. Thanks for all your efforts".

FSA Borrower Training: From formal evaluations at the end of each class, 94% of participants recommend this class to other farmers.

Printed and Electronic Extension Programming

Department Numbered Extension Publications (Examples Below): 9 Since 2013

Note: All new publications and revised publications are original (nothing reproduced from other sources). All revised publications are major revisions.

"Valuing Corn Silage for Beef Cattle Feed - 2014 Guide". AEC 2014-18. **Greg Halich**, Jeff Lehmkuhler, and Kenny Burdine. August 2014.

"Custom Machinery Rates Applicable to Kentucky (2014)" AEC 2014-01. **Greg Halich**. March 2014.

"Using the Futures Market to Predict Prices and Calculate Breakevens for Feeder Cattle." AEC 2013-09. Kenny Burdine and **Greg Halich**. August 2013.

"Kentucky ANR Agent Land Value and Cash Rent Survey". AEC 2013-16. **Greg Halich** July 2013.

College Numbered Extension Publications (Examples Below): 1 since 2013

"Producer's Guide to Pasture-Based Beef Finishing". ID-224. **Greg Halich**, Jeff Lehmkuhler, Fred Martz, and Gregg Rentfrow. November 2014 (In final editing by AgrComm).

Other Publications: 19 Since 2013

Economic and Policy Update (Bluesheet) articles: Approximately eleven articles in the departmental monthly publication. Examples include: "*Grain Profitability 2014 and Beyond: How Bad Does it Look?*", September 2014. "*Spring Nitrogen Fertilization vs. Clover Seeding: Which Has a Better Payoff?*", February 2013.

“Quick-Release Articles” that are extremely time dependent. Eight articles sent directly to ANR agents and KFBM specialists. Examples include: “*Fall 2014 Wheat Planting Decision*”, August 2014, “*Stocker and Backgrounding Outlook for 2013*”, January 2013.

Popular Press Articles (Examples Below): **5 since 2013**

Five articles in the Cow-Country News. Example: “Heifer Expansion” September 2014.

Electronic Media - Budgets and Decision-Aids (Examples Below): **5 Since 2013**

“Corn and Soybean Budgets 2014”. **Greg Halich**. March 2014

“Costs of Planting Annuals for Grazing”. Jeff Lehmkuhler, **Greg Halich**, Ray Smith, and Samantha Kindred. September 2014.

“Wheat and Wheat Double-Crop Soybean Budgets 2013-2014”. **Greg Halich**. September 2013

Meetings, Presentations, and Consultations

Multi-Session Workshops (Examples Below): **39 Since 2013**

Cow College. Multiple profitability topics. **Greg Halich** and Kenny Burdine. Lexington KY, July 9-10, 2014.

Master Stocker. “*Enterprise Budgets and Profitability*”. Clinton County. March 10, 2014.

Early Bird Meetings. “*Can you Pay \$300 Rents with \$3 Corn?*” Graves County. November 19, 2013.

Conventional Meetings and Presentations (Examples Below): **37 Since 2013**

“*Profitability Projections and Risk Mgt for 2014*”. Union County Grain Day, Union County. February 6, 2014.

“*Dollars and Cents of Grazing*”. Virginia Forage and Grassland Council Winter Grazing Meetings. Wytheville Virginia. Jan 24, 2013.

“*Pasture-Based Beef Finishing in Kentucky*”. Kentucky Cattlemen’s Association Annual Meeting. Lexington KY, January 11, 2013.

Research Program (Applied)

Although I have no formal research appointment, I conduct applied research in most of my extension program areas. There are four areas in particular where I’ve focused significant applied research efforts: 1) Pasture-based beef production, 2) Biofuel profitability, 3) Extended season and specialty grazing, 4) Risk management.

Peer Reviewed Research Publications:

Burdine, Kenneth H. and Greg Halich. “Payout Analysis of Livestock Risk Protection Insurance for Feeder Cattle.” *Journal of the American Society of Farm Managers and Rural Appraisers*. Summer 2014.

Burdine, Kenneth H., Leigh J. Maynard, Greg S. Halich, and Jeff Lehmkuhler. "Changing Market Dynamics and Value-added Premiums in Southeastern Feeder Cattle Markets." *The Professional Animal Scientist*. June 2014.

Grants and Other Funding Sources:

USDA NIFA. "On-Farm Biomass Processing : Towards an Integrated High Solids Transporting/Storing/Processing System". Sue Nokes (PI); **Greg Halich one of 10 Co-PI's** from UK. \$6,933,000 in 2011-2014.

Burdine, Kenny, Greg Halich, and Les Anderson. 2013-2014. Master Marketer. Kentucky Beef Network. \$28,100.

FSA Borrower Training Sessions. Dick Trimble and **Greg Halich (Co-PI)**. Approximately \$12,000 in participant fees since 2013.

Teaching Program

AEC 545: Natural Resource and Environmental Economics (Fall 2010 and 2011). 9 students 2011 and 18 students 2012. Quality of Teaching 3.6 Fall 2013.

Advisees: 10 AEC students Spring and Fall 2013 and 9 AEC students Spring and Fall 2014.

Service

AGR-1 Committee (UK Fertilizer Recommendations). 2011 to present.

FSA Farmland Market Advisory Committee for Kentucky. 2011 to present.

Southern Region Extension Economics Committee. Representative.

Midwest Outlook Conference Planning Committee. 2014.

Managing in Tough Times Initiative, University of Kentucky. 2012 to present.

Professional Development

Southern Region Extension Economics Meetings:

June 9-10, 2014 Chattanooga, TN.

Midwest Outlook Conference:

August 13-14, 2014 St. Louis, Missouri.

August 13-14, 2014 Indianapolis, Indiana.

Southern Agricultural Economics Association Annual Meeting

February 3-4. Dallas, Texas.

Professional Meeting Presentations (Examples Below):

5 since 2013

"*Impact of Corn on Feeder Cattle Prices by Season*". 2014 Southern Extension Committee Meeting. **Greg Halich** and Kenny Burdine. Chattanooga, TN. June 10, 2014.

"*Feedlot vs. Pasture Impacts on Feeder and Stocker Cattle Prices*". 2014 Meeting of the Southern Agricultural Economics Association. **Greg Halich** and Kenny Burdine. February 3, 2014. Dallas, TX.

"*LRP as a Price Risk Management Tool for Feeder Cattle*." 2013 Southern Extension Committee Meeting. Kenny Burdine and **Greg Halich**. Little Rock, AK. June 2013.

Extension Program Narrative – Greg Halich:

My **extension program** can be categorized into three main areas: 1) **Livestock and forage management programs**, 2) **Grain crop management programs**, and 3) **General farm management programs**. Commodity-focused farm management programs (production-oriented) are where I spend most of my effort and are delineated into the two areas of livestock/forages and grains. General farm management programs are less production oriented (not geared toward one commodity) and include custom machinery rates, land value/cash rent surveys, fixed-cost estimation training, precision agriculture, FSA borrower-training, and other miscellaneous programs.

Livestock and Forage Management:

Kentucky is the largest cattle producing state east of the Mississippi River and consequently, there has been an obvious need for me to devote a large part of my effort to the cattle/forage area. One of my most significant accomplishments in this area deals with **optimal nitrogen use in forage production**. One programming area evaluates stockpiling tall fescue pastures for late season grazing, which has become an important practice in Kentucky. This program helps answer the producer questions: Should I stockpile pastures given current markets and climatic conditions? How much nitrogen should I apply? How much can I expect to save from this practice? Agronomists at both UK and the University of Missouri contributed to this multi-disciplinary effort. Nitrogen fertilization of spring hayfields was another area where farmers were looking for guidance and I responded in a similar manner. Summary publications for both of these extension programs are updated yearly to reflect changes in nitrogen prices, hay prices, climatic conditions, and other important factors.

Economic evaluation of grazing systems has become a much bigger focus in my extension programming the last two years. This includes typical grazing systems (traditional) as well as extended season and specialty grazing. Very little work has been done in evaluating the profitability of these practices, particularly in the context of an overall system and my work here has aimed to fill that gap. I have spoken at meetings in four different states outside Kentucky on this topic in the last two years and have another scheduled for January 2015.

Pasture-based beef finishing has developed rapidly in recent years, and is a market that I feel has strong growth potential as well as good profit margins. Kentucky is uniquely suited for pasture finishing cattle with its impressive forage base, long growing season, and large calf crop. It may thus be a good fit for producers transitioning out of tobacco and into another high value-added enterprise. I secured grant funding and took the lead in creating a multi-disciplinary program (three departments) that helps livestock farmer's transition into this enterprise. A major production publication should be released by December.

The Federal government's Renewable Fuel Standard (RFS) mandates future levels of **biofuel production** for both cellulosic ethanol and co-firing purposes. If these mandates hold, they will provide significant opportunities for switchgrass and other biofuel production. Kentucky farmers need estimates on the profitability of biofuel production compared to their current operation(s). In response, I developed a model to assess profitability compared to hay production that has the ability to evaluate switchgrass production over timeframes of 5-30 years. I'm a co-PI on a \$6.9 million NIFA grant to evaluate on-farm biomass processing potential that will be funded into 2014. Thus my work in this area will increase in the next few years.

Other programming areas in livestock/forages include fixed-costs estimation for the Master Cattleman Program (see “General Farm Management Programs” for more detail), budgeting and profitability in the Master Stocker Program, Livestock Risk Program (LRP) insurance evaluation, and economic evaluation of extended season and specialty grazing.

Grain Crop Management:

Rapid price increases in grain as well as volatility in the past few years resulted in a **need to do programmatic work in the grain crop area**. Programming areas include fertilizer price updates, updated budget formats for corn, soybeans, and wheat (linked to custom rates below), quarterly updates on expected profit for each grain crop at current commodity/input prices. Steep price decreases in 2014 will lead to programming changes for the 2014-15 extension season. The steep drop in grain prices in the last 18 months will bring **challenges and potential problems** for Kentucky grain farmers. Land rents have escalated so quickly during the price boom that the sudden drop of commodity prices will most likely lead to steep losses for most grain farmers in 2014. Farmers will need to renegotiate leases and use tools such as flexible cash leases which have the ability to modify lease rates according to economic conditions and provide better tenant-landowner relations.

General Farm Management Programs:

Custom Machinery Rate Database and Publication was created in response to ANR agent and farmer demand. Custom rates are compiled from six nearby states and adjusted for differences in fuel prices, labor rates, and machinery costs from the times of the respective surveys. A summary publication is created each year to meet the needs of grain, forage, livestock, horticultural, and other producers in Kentucky. This database is linked to row-crop budgets and the resulting rates are used in most of the partial-budget analysis that is done in our department.

Fixed Costs Estimation Training helps producers understand fixed costs and how they impact their overall profitability. Fixed costs are an invisible cost for most producers, and few producers grasp their magnitude. This interactive program shows farmers how to estimate their fixed costs and break them down between enterprises. After being well received in Master Cattleman sessions I have since integrated this program into FSA Borrower training sessions, KY FarmStart, and Master Stocker.

Kentucky ANR Agent Land Value and Cash Rent Survey is conducted yearly to better understand the dynamics of land values and farmland rental rates throughout the state. In particular, cash rents on cropland have increased significantly in the last few years and there was a need to understand by how much and where this was changing. Results are broken down into 8 distinct sub-regions and the summary publication is used by farmers, landowners, ANR agents, farm management companies, institutional investors, and government officials.

Precision Agriculture is an area that much research has gone into in recent years. While not a major programming area for me, the small amount of time that I have been able to dedicate to this topic has been met with incredible interest from farmers throughout the country (see impact section). This is an area that I would like to do more work in the future.

Farm Service Agency (FSA) Borrower Training provides basic farm and financial management training for individuals with FSA loans. This program helps to build farm management capacity for beginning farmers and helps to build good financial habits.