

Making Beef More Healthful and Getting Paid For It

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UNIVERSITY OF MISSOURI
Extension

COMMUNITY FOOD SYSTEMS & SUSTAINABLE AGRICULTURE PROGRAM

Eating Well and Doing Good in Missouri

During the past 25 years market prices received by farmers have increased only slightly while costs of production have increased steadily. Solutions to this problem of low profit margins lay in finding ways to both increase market prices and decrease production cost. In pasture finishing systems for beef cattle, costs can be limited. Recent reports including preliminary data from our own study indicate that when consumers learn about the health benefits of foods, they are indeed willing to pay premiums for meats and other foods. Our recent research thrust has been to measure the level of



Conjugated Linoleic Acid (CLA) of beef from cattle finished on pasture and to measure the effect of feeding grain supplementation on CLA levels. The CLA content of beef is of interest because it is thought to have certain health benefits such as protection from cancer, heart disease, obesity, and diabetes, and thus may enable premium selling prices to be obtained for pasture finished beef.

In general the mechanism of protection is thought to be that these compounds are anti-inflammatory and that the triggering mechanism of especially cancer and heart disease is an inflammatory agent. Beef from cattle finished on pasture has been shown to be higher in CLA than beef from cattle finished in the feedlot. There is widespread belief among grazers and beef producers that feeding of grain supplements significantly decrease CLA levels in beef, even to the point of suggesting that feeding any grain supplement will lower CLA levels to the same level as found in feedlot finished cattle. Beef that lacks a moderate amount of fat tends to be dry in eating texture and lacks tenderness. Moderate grain supplementation in pasture finishing systems to enhance both the eating quality and the CLA content of pasture finished beef would be advantageous.

In this study we obtained hamburger samples from 6 beef producers who finished cattle on pasture. Cattle were harvested in processing plants which were located near the producer and hamburger was sampled from individual animals. Cattle grazed cool season mixed pastures during the grazing season.

Cattle were finished on pasture alone or supplemented with different levels and types of grain while grazing pasture. For comparative purposes, values for feedlot finished cattle were taken from research trials reported from two studies; one conducted here at the University Beef Farm and the other at the University of Arkansas. The hamburger in our sample set ranged in total fat content from 9.0 to 21.9% which was expected because the fat content of hamburger is largely determined by how much trimmed fat the processor decides to add to the hamburger.



Inside This Issue

Making Beef More Healthful and Getting Paid For It.....	1,3
MU Workshops To Help Growing Number Of Latino Farm Operators.....	2
Farmers Forum.....	2
Risk Management Workshops for Latino's.....	2
Making Beef More Healthful continued.....	3
Mizzou Food Drive Success.....	3
New Staff.....	3
What's New In Sustainable Food and Farming Series.....	4
Featured Websites, Check It Out, Mark Your Calendar.....	4

MU Workshops To Help Growing Number of Latino Farm Operators

While the number of farms in the U.S. continues to shrink, one surprising growth area is an increase in the number of Latino farm operators. In response to the trend, the University of Missouri plans two series of workshops across the state starting early next year to assist the state's growing population of Latino farm operators and employers of Latino agricultural workers, said Jose Garcia, coordinator of the MU Community Food Systems and Sustainable Agriculture Program.

One series will train Latino farm operators in risk management aspects, Garcia said. The second series is aimed at employers of Latino farm workers. The goals of these workshops are to help employers better understand Latino culture and to address employee issues related to workplace safety, laws and labor regulations.

The 2002 Census of Agriculture released in June shows a remarkable increase in the number of Latino farmer operators. While the U.S. lost 86,000 total farmers from 1997 through 2002, this nation-wide survey identified 72,329 Latino farmers across the U.S. The number of Latino farm operators in Missouri more than doubled from 508 to 1,059 during this time period.

"Many Latino producers came to this country with a background in agriculture. Many were farm workers, and the vast majority of them probably have some relationship with agriculture," Garcia said. "They saved their money and wanted to become their own boss." Business risks are greater for Latino producers and laborers than for mainstream producers due to a lack of awareness, language and cultural barriers, Garcia found in a statewide survey. Production, financial and marketing risks are difficult enough for established mainstream producers, but harder for Latinos, he said.

Obstacles include access to loans and to land, legal issues in purchasing a farm, and knowing what technology is available. Latino producers also face unfamiliarity with Missouri's crops, soils, growing conditions and market potential.



Farmers Forum

The Farmer's Forum has become a tradition as an integral part of the National Small Farm Trade Show & Conference and this year was no different. The three days of presentations, at the Boone County Fair Grounds in Columbia, Missouri November 4-6, featured a diversity of topics and presenters, with panels on Agroforestry and Direct Meat Marketing strategies to individual presentations on Intensive Grazing, Improved Pasture, Solar Power, Farm Business Planning, Elderberries, Fresh Water Shrimp Production, Grant Opportunities for Farmers and many other topics.

Presenters represented a variety of backgrounds, from agriculture producers who have received sustainable agriculture grants, to extension educators, to community leaders, and to sustainable agriculture programs staff.

The Forum was again a success and the Small Farm Trade Show & Conference hosted around 4,000 participants this year.

If you'd like to volunteer as a presenter or moderator for the 2005 Conference next fall please contact Jose Garcia at 573-884-3794 or GarciaJL@missouri.edu

Risk Management Workshops for Latino's

Dec. 7, 2004, 5 :00 pm-9:00 pm, Risk Management workshop for Latino producers at MU Southwest Center, 14548 Hwy H., Mt. Vernon

Jan. 7, 2005, 9:30 am-3:30 pm, Risk Management workshop for employers of Latino agricultural workers at the Ramada Inn, 4016 Frederick, St. Joseph

Jan. 17, 2005, 10:00 a.m.-3:00 p.m., Risk Management workshop for Latino dairy producers at the Community Center in Conway

Feb. 17, 2005, 1:00 p.m.-5:00 p.m., 2005, Risk Management workshop for employers of Latino agricultural workers in Malden;

Feb. 23, 2005, 1:00p.m.-5:00 p.m., Risk management workshop for employers of agricultural workers at the Clarion Inn conference center, 3333 South Glennstone, Springfield.

For more information on the workshops call (573) 884-3794. The workshops will be funded by USDA's Center for Risk Management Education grants.

Making Beef More Healthful *continued*

The hamburger from cattle finished in the feedlot contained 0.25 to 0.37 mg/100mg of CLA and is representative for cattle fed high concentrate levels finished in feedlots. Hamburger samples from cattle finished on pasture alone contained CLA levels of 3 to 6 times higher levels (1.08 to 1.67 mg/100mg) than the feedlot cattle. Cattle which were fed relatively small amounts of grain supplement on pasture had levels of CLA equal to the samples from the pasture finished cattle.

We also found that small to moderate amounts of concentrate (up to 1% of Body Weight for 60 days) can be fed without depressing CLA levels in beef, which is contrary to many statements in the popular press which indicate that feeding any level of grain concentrate supplement with pasture will suppress CLA levels in the finished beef.

Human dieticians wonder if a diet can be constructed that is sufficient in CLA. The average CLA level in beef is about 1.2 mg/gm of sample based on an average fat content in the beef of 11.7%. About 20% of CLA is lost from beef upon cooking, which leaves about 100 mg total CLA in a 4 oz hamburger. Published values indicate that cheeses from pasture based dairies are relatively rich in CLA with many ranging from 200 to 300 mg per serving. Whole milk probably contains 25 mg per serving. Butter and specially prepared shortening probably contain about 150 mg per serving. A human diet would need to contain 2 servings of meat, 1 serving of cheese, 4 glasses of whole milk, 25 gm of butter, 25 gm shortening and 1 egg daily to supply 1,000 mg CLA daily. This level would appear to meet the dietary needs of 1000 to 1200 mg daily. Higher intakes than that would have to come from some supplementation.

Caution: The caloric value of fat is about twice that of carbohydrates and protein. Promoting the dietary intake of fat will have a tendency to increase caloric intake and in turn will increase body weight. Any dietary recommendation to consume adequate amounts of CLA also needs to be accompanied with adequate exercise programs to maintain optimal body weight.

Summary and implications: Our study confirms that raw beef from cattle finished on pasture contains 3 to 6 times more CLA than beef from cattle finished in the feedlot. Feeding grain concentrate supplements on pasture allow for much needed flexibility in pasture finishing systems. Implications of consuming adequate levels of CLA on human health include a decreased risk of cancer, heart disease, diabetes and obesity. Calculations are presented to show that 1 to 2 servings daily of high CLA beef, cheese, whole milk, butter, eggs, or prepared foods containing high CLA shortening will supply up to 1,000 mg CLA daily. Beef that is high in CLA may demand a premium selling price if consumers are educated about health benefits associated with eating high CLA beef.

MSA Annual Food Drive Doubles Goal!!!!

The Collegiate Farmers Union co-sponsored the MSA annual food drive this year. The food drive was organized around the idea of donating local produced fruits, vegetables, meats, and dairy products to the Central Missouri Food Bank. The goal of the food drive was to alleviate hunger while supporting farmers in the local committee; this was also an opportunity to educate the community on the wide variety of locally produced foods here in mid-Missouri. The goal of a \$1000 dollars was set for the week of October 18-22; by the end of the week we had raised a total \$2004 dollars, this was thanks to the many students, faculty, staff, and varies others who donated anything from pennies to twenty dollar bills to support Missouri's farmers while alleviating hungry, this years food drive was a true success.



New Community Development Specialists In Local Food Systems

Two new Community Development Specialist have been hired to facilitate connections between farmers and consumers in the St. Louis and Kansas City areas. Tricia Freund and Crystal Weber will work with Extension Asst. Professor, Mary Hendrickson and will provide technical assistance to farmers seeking to access new markets, work to facilitate new relationships with processors, distributors, restaurants, and retailers, and promote locally produced foods throughout the St. Louis and Kansas City metro areas.

You can contact Tricia at her office, 300 Main St., Hillsboro, MO (636) 797-5391 and her cell phone is (314) 225-8348. Crystal's office is at 1507 S. Noland Rd., Independence, MO her office phone is (816) 252-5051 and her cell phone is (816)377-2161.



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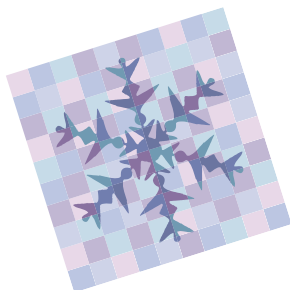
We're on the Web!
<http://agebb.missouri.edu/sustain>

Featured Websites

www.farmprofitability.org
www.foodcircles.missouri.edu
www.foodsecurity.org

Check It Out

**The New Guide to Eating
Well & Doing Good**
available for Springfield
and Columbia at:
[www.foodcircles.missouri/
sources.htm](http://www.foodcircles.missouri/sources.htm)



What's New In Sustainable Food and Farming Series:

Each month during the 2004-2005 school year the *Community Food Systems & Sustainable Agriculture Program* will feature speakers on important topics at our "Lunch and Learn" series. These informal seminars are held on the UMC campus from 11:45 a.m.-1:00 p.m. and refreshments are provided.

January 24, 2005, Room S-304 Alumni Faculty Lounge

Mr. Joe Tillman, Kansas Migrant Education Program, will present on "Do Migrant Farmworkers Have A Place In Sustainable Agriculture?"

March 17, 2005, Mumford Hall Room 217

Lisa Kivirist and John Ivanko, from Browntown, WI will speak on "Farm Diversification and Managing The Media." Lisa and John are authors of *RURAL RENAISSANCE:RENEWING THE QUEST FOR THE GOOD LIFE* (www.ruralrenaissance.org) and founders of the Rural Renaissance Network, a program of the non-profit organization, Renewing the Countryside (www.renewingthecountryside.org)

Mark Your Calendar

Great Plains Vegetable Growers Conference

January 7-8, 2005
Ramada Inn 4016 Frederick
St. Joseph, MO

MO Farmers Union Convention

January 28-29, 2005
Jefferson City, MO

Show-Me Ag Classic

February 2-3, 2005
Columbia, MO

MO Young Farmers' Meeting

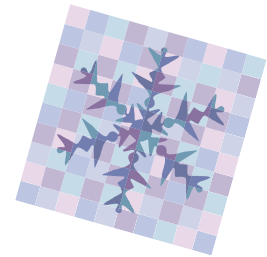
February 5, 2005
Tan Tara Resort, Osage Beach

MDA Organic Certification Training Workshop for Producers

February 10, 2005, Albany
February 12, 2005, Jefferson City
February 17, Mt. Vernon

Small Fruit and Vegetable Conference

February 21-23, 2005
Springfield



Have Questions or Need Information ???

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