The Comments of Food Animal Concerns Trust
to
Department of Agriculture
Agricultural Marketing Service

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Comments submitted by:
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Re: Docket Number: LS-05-09. United States Standard for Livestock and Meat Marketing Claim, Grass (Forage) Fed Claim

Introduction

Food Animal Concerns Trust (FACT) is a non-profit organization founded in 1982 that advocates humane and sustainable farming practices that: improve the safety of milk, meat and eggs; promotes the humane husbandry of food animals; reduces environmental pollution and conserves natural resources; and broadens economic opportunities for family farmers including the development of niche markets. Since the initial Federal Register notice of a proposed grass fed claim on December 30, 2002, FACT has been part of the ongoing dialogue between the Agricultural Marketing Service (AMS) and other constituencies including farmers and ranchers, environmental and animal welfare organizations, consumer advocacy groups and other stakeholders.

FACT is pleased to have this opportunity to provide comments on the revised United States Standard for Livestock and Meat Marketing Claim, Grass (Forage) Fed Claim. FACT fully supports adoption of a 99 percent standard for grass-feeding, which will preclude the conventional practice of feeding grain, including corn, during growing or finishing. FACT also offers clarifying language for the marketing claim and background information. The following paragraphs describe current research and developments related to grass fed beef and respond to various aspects of the rule.

Background on fat composition and essential fatty acids

Discussions regarding the benefits of grass fed meats most often revolve around fat composition, particularly with regard to fatty acids. Fatty acids fall into one of three main categories: saturated fatty acids (SFAs), polyunsaturated fatty acids (PUFAs) and monounsaturated fatty acids (MUFAs). In terms of human health "beneficial health-

promoting fats include MUFAs and PUFAs, whereas most SFAs and *trans* fatty acids are detrimental." [1]

In particular, recent research has focused on the essential polyunsaturated fatty acids, which fall into two biologically important families – Omega-3 PUFAs and Omega-6 PUFAs.[2] Evidence is also emerging that the ratio of Omega-6 PUFAs to Omega-3 PUFAs (6:3) may be an important factor in human health.

Research into the 6:3 ratio was spurred in part by prior research into the diets of early humans (hunter-gatherers). In the early human population, levels of these essential fatty acids were fairly equal, with 6:3 ratios between 1:1 and 2:1.[3] Researchers concluded that from a genetic standpoint, the changes in diet and other lifestyle conditions that began with the introduction of modern agriculture and animal husbandry "occurred too recently on an evolutionary time scale for the human genome to adapt.[4] A "discordance between our ancient, genetically determined biology and the nutritional, cultural and activity pattern in contemporary Western populations has facilitated the emergence of 'diseases of civilization' including obesity, diabetes, hypertension and other cardiovascular disease [CVD], osteoporosis, osteopenia, and cancer" that were not present in hunter-gatherer societies.[5] In general, human health declined as "society changed from a hunter-gatherer type society into an agricultural grain-based diet, including shorter life spans, higher childhood mortality, and higher incidence of osteoporosis, rickets, and vitamin and nutrient deficiencies."[6]

Although hunter-gatherers derived much of their calories from meat (45-60%), most of the meat was wild game, which was very low in total fat, but contained high amounts of MUFAs and Omega-3 fatty acids.[7] In contrast, today's grain-fed meats can contain 20-30% fat, most of it saturated fat, which is a direct result of the animals' diet. "Today, meat from domesticated animals is low in Omega-3 fats because these animals are generally grain-fed or corn-fed, rather than grass-fed."[8] "Feedlot beef is higher in saturated fat, lower in Omega-3 fatty acids and higher in Omega-6 fatty acids than the meat our ancestors ate and to which we are genetically selected to consume."[9]

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[1] Cordain, Loren, S. Boyd Eaton, Anthony Sebastian, Neil Mann, Staffan Lindeberg, Bruce A. Watkins, James H. O'Keefe and Janet Brand-Miller, 2005. Origins and evolution of the Western diet: health implications for the 21st century. *Am J Clin Nutr* 81:341-354.

[2] Ibid.

[3] Clancy, Kate. *Greener Pastures: How grass-fed beef and milk contribute to healthy eating.* Union of Concerned Scientists, March 2006.

[4] Cordain, et al., 2005.

[5] Ibid.

[6] O'Keefe, James H. Jr, MD and Loren Cordain, PhD. Cardiovascular Disease Resulting From a Diet and Lifestyle at Odds With Our Paleolithic Genome: How to Become a 21st Century Hunter-Gatherer, 2004. *Mayo Clin Proc* 79:101-108.

[7] Ibid.

[8] Ibid.

[9] Cordain, et al., 2005.

In the past few years, epidemiological and clinical studies have shown there is a correlation between lower 6:3 ratios and higher bone density in women. Additional studies have suggested an association between lower 6:3 ratios and a reduction in coronary heart disease and mortality. These studies suggest bringing the 6:3 ratio more into line with the diets of earlier humans by increasing the consumption of pasture-raised meats and fish.[10]

There has also been a developing research interest in a particular polyunsaturated fatty acid – conjugated linoleic acid, or CLA. Initial research into the potential health benefits have been promising. Preliminary research suggests that consumption of CLA may help fight breast cancer, diabetes and other ailments,[11] as well as reduce carcinogenesis, atherosclerosis and body fat mass.[12]

As a result, research has begun to focus on the fat composition of grain-fed versus grass-fed meats. The following is a sampling of the current research on these topics.

Scientific Literature on Grass Fed Meats and Dairy

In a study by Loren Cordain, et al., that evaluated the fatty acid profile of wild ruminant tissue versus grain-fed and grass-fed cattle, the researchers found that grain-fed beef contained more than twice as much saturated fat, approximately ¾ of the amount of Omega-3 fatty acids and 1.75 times the amount of Omega-6 fatty acids. They believe "the process of feeding cattle grain during the feedlot finishing process is directly responsible for the differences in fatty acid composition between grain and pasture-fed cattle." The researchers concluded that "the overall lipid characteristics of pasture-fed cattle are closer to values found in wild ruminants, and from a health perspective, the meat from these animals would probably be superior to meat from grain-fed cattle."[13]

D.C. Rule, et al., looked at the fatty acid profiles and cholesterol compositions of meat from bison, beef, elk and chicken. Range fed beef cattle had a better polyunsaturated fatty acid to saturated fatty acid ration versus feedlot beef (1.92/1). Range fed beef also had a much better 6:3 ratio versus that of feedlot beef --1.95 versus 6.38, respectively. Levels of Omega-3 fatty acids in range fed beef ranged from 2.25-6.73 times that of feedlot beef cattle. In addition, cholesterol levels (mg/100g) were significantly higher in feedlot beef (61.4) versus that of range fed beef (52.7). As a result, the authors concluded

[10] Clancy, 2006.

[11] Roosevelt, Margaret. "The Grass-Fed Revolution." Time Magazine, June 4, 2006.

[12] Daley, C. A., A. Abbott, M. Basurto, G. Nader, and S. Larson. *Conjugated Linoleic Acid: Concentrations found in Grass Fed Beef.* California State University, College of Agriculture, Chico, California, 2004.

[13] Cordain, L., BA Watkins, GL Florant, M Kelher, L Rogers and Y Li, 2002. Fatty acid analysis of wild ruminant tissues: evolutionary implications for reducing diet-related chronic disease. *European Journal of Clinical Nutrition* 56: 181-191.

that "range-fed bison and range-fed beef cows would provide consumers with very lean meat that is comparable to meet from free-ranging elk with respect to fatty acid profiles currently regarded as the most healthful."[14]

Dhiman, et al., studied steer calves randomized to three pasture diet regimens to determine the effects of pasture on CLA and vitamin E levels in the meat. Pasture raised meat was lower in total fat when compared to the grain fed cattle, 3.3g/100g of fresh meat versus 5.6g/100g of fresh meat, respectively. The C18:2 *cis*-9, *trans*-11 CLA available from grain-fed and pastured beef was 12 and 40 mg/100g of meat, respectively. Raising cattle on pasture instead of grain increased CLA by 466%. Meat from animals finished on pasture had a 300% increase in Vitamin E content versus animals finished on grain. Pasture raised beef also maintained its redness better than grain fed beef. "These results suggest that despite the considerably lower total fat content of beef from forage fed animals (PS), the availability of C18:2 *cis*-9, *trans*-11 CLA is 3.3 times greater than beef from animals fed high-grain diets."[15]

O'Sullivan, et al., evaluated the effect of diet on retail meat quality. They found that animals who consumed a diet of maize silage produced meat with the poorest color stability. The visual panel least preferred it after two or more days of display. Lipid oxidation was also significantly higher in the maize group compared to the other two groups (grass silage or the maize/grass mix). Alpha-tocopherol (vitamin E) levels increased in the following order: maize silage; 50:50 grass:maize silage; and grass silage. The percentage fatty acid levels of C18:3 fatty acids in grass silage fed group was 47.31% versus 5.7% in the maize silage fed group. Alpha-tocopherol (Vitamin E) levels were 5 times higher in the grass silage group (105.41 versus 20.76 micrograms/gram). The authors concluded that beef from grass silage fed animals had better overall quality in terms of color, lipid oxidation and alpha-tocopherol levels than beef from maize silage fed animals. [16]

Daley, et al., found that the amount of natural vitamin E in beef raised on a high concentrate diet of grain is 3.7 mg/gram of tissue, where as the amount of vitamin E is beef raised on a grass-based diet is 9.5 mg/g, or an almost 3-fold increase.[17]

Daley, et al., also found that the levels of vitamin A (beta-carotene) in grass-fed beef are twice as high as levels found in grain-fattened beef.[18] The authors noted that a 3 oz.

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[14] Rule, D.C., K.S. Broughton, S. M. Shellito and G. Maiorano, 2002. Comparison of muscle fatty acid profiles and cholesterol concentrations of bison, beef cattle, elk, and chicken. *J. Anim. Sci*. 80:1201-1211.

[15] T. R. Dhiman, C. S. Poulson, D. Cornforth, and D. R. ZoBell. *Conjugated Linoleic Acid (CLA) and Vitamin E Levels In Pasture Forages for Beef Cattle*. Utah State University Extension. March 2006.

[16] O'Sullivan, A., K. O'Sullivan, K. Galvin, A. P. Moloney, D. J. Troy, and J. P. Kerry, 2002. Grass silage versus maize silage effects on retail packaged beef quality. *J. Anim. Sci.* 80:1556-1563.

[17] Daley, C. A., A. Abbott, M. Basurto, G. Nader, and S. Larson. *Vitamin E in Grass Fed Beef.* California State University, College of Agriculture, Chico, California, 2004.

serving of grass fed beef would supply 10% of the RDA for beta-carotene in women. In another study on the Omega-6:Omega-3 (6:3) ratio, they found that the 6:3 ratio was improved by a grass-based diet. They found that cattle fed primarily grass enhanced levels of Omega-3 fatty acids by 60% and that the 6:3 ratio of 2:1 for grass-fed beef was better than that of conventionally raised, grain fed beef at 4:1. [19]

Daley, et al, also studied the levels of CLA in grass-fed versus grain-fed beef. They found that CLA levels were 2.04 to 2.92 times higher in beef from animals raised and finished on pasture versus beef from animals finished in a feedlot on a grain concentrate diet. They also suggested that to achieve biological effects, the average human would need to consume approximately 5 g of CLA per day. On average, a 3.5 oz. serving of grass fed beef provides 1.23 grams CLA, or 25% of the daily requirement for a biological effect.[20]

Finally, an extensive research review by Kate Clancy, Union of Concerned Scientists, revealed that steaks from grass-fed animals are likely to be lower in total fat and higher in levels of alpha-linoleic acid [an omega-3 fatty acid] than steaks from conventionally raised animals. In addition, the ratio of Omega-6 to Omega-3 fatty acids is consistently lower in steaks from grass-fed cattle. Total fat in ground beef is likely to be lower in grass-fed versus conventionally raised animals. Grass-fed ground beef is also higher in CLA. Levels of vitamin A and vitamin E were also higher in grass-fed meat, although the amounts were still low and represented a small portion of the RDA.[21]

Meat has not been the only animal protein studied. Studies on the fat composition of milk and dairy products also reveal that the animals' diet (grass/pasture versus grain) can have a significant impact on the nutritional value of these foods.

S. Couvreur, et al., studied 4 groups of Holstein milk cows which were fed increasing amounts of grass in their diet (0,30,60 and 100% dry matter forage). The levels (g/100g of total fatty acids) of CLA (C18:2 *cis*-9, *trans*-11) for the diet regimens of 0, 30, 60 and 100% grass were 0.48, 0.54, 1.21 and 1.65, respectively. The authors found that "increasing the proportion of fresh grass in the diet induced a linear increase in unsaturated fatty acids percentages at the expense of saturated fatty acids."[22] They also

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[18] Daley, C. A., A. Abbott, M. Basurto, G. Nader, and S. Larson. *Vitamin A in Grass Fed Beef.* California State University, College of Agriculture, Chico, California, 2004.

[19] Daley, C. A., A. Abbott, M. Basurto, G. Nader, and S. Larson. *Omega-3/Omega-6 fatty acid content of Grass Fed Beef.* California State University, College of Agriculture, Chico, California, 2004.

[20] Daley, C. A., A. Abbott, M. Basurto, G. Nader, and S. Larson. *Conjugated Linoleic Acid: Concentrations found in Grass Fed Beef.* California State University, College of Agriculture, Chico, California, 2004.

[21] Clancy, 2006.

[22] Couvreur, S., C. Hurtaud, C. Lopez, L. Delaby and J. L. Peyraud, 2006. The Linear Relationship Between the Proportion of Fresh Grass in the Cow Diet, Milk Fatty Acid Composition, and Butter Properties. *J. Dairy Sci*. 89:1956-1969.

noted that the nutrition value of butter improved as the proportion of fresh grass improved by halving the atherogenicity index. The authors concluded that "increasing the proportion of fresh grass in the diet induced a linear improvement of the nutritional value of milk fat."[23]

In four separate experiments looking at the levels of CLA in milk from cows fed different diets, Dr. Tilak Dhiman, et al., found that the CLA levels in milk increased linearly as the amount of pasture was increased. Grazing cows (all pasture) had 150% and 53% more CLA in milk fat than cows eating 1/3 or 2/3 pasture, respectively. Cows on all pasture had 500% more CLA in milk fat than cows fed a TMR diet of forage/grain diet in a 50:50 ratio.[24] Interestingly, the researchers found that feeding dry pasture grass (hay) did not increase CLA, which strongly suggests that cows must actually graze on pasture for their energy intake, as opposed to being in confinement and maintained on a diet of cut or dried grass.

Elgersma, et al., looked at the changes in milk fat composition after cows transitioned from grass to a grain silage diet. In both trials, the vaccenic acid (an n-7 *trans* fatty acid that is converted into rumenic acid, a CLA isomer) and CLA content of the milk decreased by 85% and 82%, respectively after the transition from fresh grass to a grass/maize silage ration. Interestingly, this change occurred rapidly, with 42% of the initial proportion of vaccenic acid and CLA left after 2 days, and only 20% of the original proportion left after 6 days. The authors concluded that the milk fatty acid profile of milk altered dramatically within just a few days after the switch to a grass/maize silage diet from that of fresh grass alone. The unsaturated fatty acid content of the milk decreased and saturated fatty acids increased, both of which are considered undesirable from a consumer perspective. Finally, the contents of the beneficial n-7 fatty acid rumenic acid and vaccenic acid both decreased by approximately 80% within one week.[25] These results, in particular, suggest that potential benefits to human health can be easily lost if the animals diet is anything less than 99-100% grass.

Overall, the above research indicated that grass-fed meats (and milk and dairy products) can play a significant and beneficial role in human health.

Additional Benefits of Grass-Based Systems

Besides the obvious nutritional benefits that grass provides in terms of healthy meats and dairy, there are other substantial benefits.

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[23] Ibid.

[24] Dhiman, T. R., G. R. Anand, L. D. Satter and M. W. Pariza, 1999. Conjugated Linoleic Acid Content of Milk from Cows Fed Different Diets. *J Dairy Sci*. 82:2146-2156.

[25] Elgersma, A., G. Ellen, H. van der Horst, H. Boer, P.R. Dekker, and S. Tamminga, 2004. Quick changes in milk fat composition from cows after transition from fresh grass to a silage diet. *Animal Feed Science and Technology* 117:13-27.

Grass-fed and pastured-based grazing systems, when managed appropriately, are more environmentally friendly. Grass-fed systems reduce green house emissions (i.e., ammonia and methane from vast amounts of manure), decrease fuel use, decrease soil erosion, improve water quality and preserve natural wildlife habitats. [26] Grass-based systems are more sustainable.

Grass-fed systems are also better for the animals, whereas corn-based diets contribute to health problems in feedlot cattle. Ruminants are genetically designed to eat grass and forages. Because of its low fiber content, feeding corn causes fermentation acids to build up in the rumen. This acidosis can lead to ulcers, through which infectious bacteria (including virulent strains of E. coli) can enter the digestive tract and produce abscesses in the liver.[27]

In his ground-breaking article for the New York Times, author Michael Pollan discusses the benefits of grass and its relationship to the environment and animal welfare. "Although the modern cattle industry all but ignores it, the reciprocal relationship between cows and grass is one of nature's underappreciated wonders. For the grasses, the cow maintains their habitat by preventing trees and shrubs from gaining a foothold; the animal also spreads grass seed, planting is with its hoofs and fertilizing it. In exchange for these services, the grasses offer the ruminants a plentiful, exclusive meal. For cows, sheep and other grazers have the unique ability to convert grass – which single-stomached creatures like us can't digest – into high-quality protein. They can do this because they possess a rumen, a 45-gallon fermentation tank in which a resident population of bacteria turns grass into metabolically useful organic acids and protein. This is an excellent system for all concerned: for the grasses, for the animals and for us."[28]

There are other human health benefits to grass-fed systems. As noted above, grain based diets wreak havoc on the digestive systems of cattle, causing acidosis leading to ulcers, bloat and liver abscesses. In order to counteract the detrimental effects of a grain-based diet, conventional feedlots turn to antibiotics. It is estimated that approximately 70% of all antibiotics (or 24.6 million pounds) used in the United States are used on animals for non-therapeutic purposes. Fifteen percent, or 3.7 million pounds, are used in cattle.[29] This use accelerates the development of antibiotic-resistant bacteria, which can infect people who consume meat as well as those working at, living near, or living downstream of confinement operations. The overuse of antibiotics and the development of antibiotic resistant in the human population is a well-documented public health issue of great concern.

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[26] Clancy, 2006.
[27] Ibid.
[28] Pollan, Micheal. This Steer's Life. *The New York Times Magazine*, March 31, 2002.
[29] Mellon, Margaret, Charles Benbrook, and Karen Lutz Benbrook. *Hogging It: Estimates of Antimicrobial Use in Livestock.* Union of Concerned Scientists, January 2001.

In contrast, well-managed, grass-based systems in general do not rely on antibiotics because a diet of grass does not induce disease in the animals.

Consumer Demand for Grass-fed Beef

In light of the latest research on the benefits of grass-fed meats, as well as consumer concerns about food-related illness such as E. coli O157:H7, Salmonella enteritidis, and Bovine Spongiform Encephalopathy (Mad Cow disease), news articles extolling the nutritional, environmental, public health and animal welfare virtues of grass-fed meats have proliferated. "The beef is touted as a wonder meat that's up to 50 percent lower in fat than regular beef, higher in vitamin E and omega-3 fatty acids, environmentally friendly and humanely produced," states a recent news article.[30] The media is discussing CLA and Omega-3s as the next wonder-foods. "The most significant amounts of CLA are found in the meat and dairy products of grassfed animals, with three to five times more CLA than animals fattened on grain in a feedlot."[31]

Another article states, "when animals are 100% grass-fed, their meat is not only lower in saturated fats but also slightly higher in omega-3 fatty acids, the healthy fats found in salmon and flaxseed, which studies indicate may help prevent heart disease and bolster the immune system. Ground beef and milk from grass-finished cattle also have more conjugated linoleic acid (CLA), which recent data suggest may help prevent breast cancer, diabetes and other ailments. Moreover, grass-finished meat is higher than grain-finished meat in vitamin A and vitamin E, two antioxidants thought to boost resistance to disease."[32]

The benefits of "grass fed" are touted not only for meat, but for grass fed dairy products as well. Consumers "understand that grass-fed generally translates to a more natural offering than conventional products…Milk from grass fed cows has been shown to be higher in Omega 3 fatty acids and conjugated linoleic acid, both thought to have health benefits."[33]

This information has not been lost on consumers and the demand for grass-fed meat and milk is growing rapidly.

"With more consumers questioning how their food is grown…grass-finished meat and dairy look like the next food frontier. In the past five years, more than 1,000 U.S. ranchers have switched herds to an all-grass diet. Pure pasture raised beef still represents

[30] Snow, Jane. Grass-Fed Cattle and the Farms that Raise Them are Growing with Amazing Graze." Akron Beacon Journal, July 26, 2006.

[31] Sweets, Ellen. "Ranchers of grass-fed beef talk up its virtues." Denver Post, July 26, 2006.

[32] Roosevelt, 2006.

[33] Meyer, Ann. "A Growing Market for Natural Foods," Chicago Tribune, July 17, 2006.

less than 1% of the nation's supply, but sales reached some $120 million last year and are expected to increase more than 20% a year over the next decade."[34]

"The [grass-fed] trend has gained momentum in recent years as people have become more aware of how their food is produced."[35]

Curt Lacy, an assistant professor at the University of Georgia and extension economist of livestock says, "There is (increasing) interest among consumers to buy grass-pastured beef." He is encouraged by preliminary findings that consumers prefer the grass-fed beef product, once they know more about its health advantages.[36]

Farmers and savvy marketers are responding to this increased demand. Bill Hodge, farmer and coordinator of Carroll/Heard Counties Extension says, "(We) are being driven by demand to move back to grass-finished and grass-fed meat."[37]

TV legend, Bill Kurtis, developed his own line of grassfed beef – Tallgrass Beef Company. Chicago Tribune columnist and food critic Phil Vettel says of Tallgrass Beef, "Tallgrass beef is naturally raised, grass-fed and grass-finished, which means the cows don't bulk up on grain at the end of their life cycle…The grass-fed beef is said to be lower in cholesterol, higher in omega 3 fatty acids and generally a healthier meat option."[38] And well-known Chicago chef Sarah Stegner says of Tallgrass beef, "it flies out of here. We offer conventional beef as well, and Tallgrass definitely sells better. Many customers who buy it are interested in the health benefits. But that's not why we carry it; it's the flavor. Waiters sell it because it tastes good."[39]

Specialty products are also developing using grass-fed beef and milk. Stephen McDonnell, founder and CEO of Applegate Farmers recently introduced a grass-fed frankfurter. And "beyond the mass market are the elite athletes of the grass-fed hot dog movement. These are boutique dogs, made in smaller batches with beef from herds raised not far from where the dogs are sold…showing up in increasing numbers, both at dog stands in New York and San Francisco. The emphasis is on local beef, in keeping with the emerging notion that local sustainable food is a better economic and social choice than a mass-marketed product, even one that carries an organic label."[40]

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[34] Roosevelt, 2006.

[35] Lynem, Julie. Moooooving to grass-fed: Beef that comes from such animals is thought to have health benefits because the cattle are not fed a diet of grain. The San Luis Obispo Tribune, July 25, 2006.

[36] Smith, Virginia. "Grass-Fed Cows Gaining Popularity with Families, Businesses." Athens Banner-Herald, Georgia. July 3, 2006

[37] Ibid.

[38] Vettel, Phil. "No Bull. Eateries dishing up brand-name beef." Chicago Tribune, April 27, 2006.

[39] Ibid.

[40] Severson, Kim. "The Natural Dogs. Grass Fed: The New Allure of the Organic Frankfurter." The New York Times, July 5, 2006.

Chad Pawlak, president of Organic Farm Marketing, just launched Grass Point Farmers, a line of cheese made with milk from grass-fed cows. Says Pawlak, "milk from grass fed cows has been shown to be higher in Omega 3 fatty acids and conjugated linoleic acid, both thought to have health benefits." And Bob Scaman, president of Goodness Greenness, a Chicago distributor of organic food and produce states that consumers "understand that grass-fed generally translates to a more natural offering than conventional products." [41]

FACT's Support for the USDA/AMS proposed Grass-Fed Claim

FACT fully supports adoption of a 99 percent standard for grass-feeding, which will preclude the conventional practice of feeding of grain, including corn, during growing or finishing. Research supports this standard, as feeding anything less than 99-100 percent grass has the potential to change the fatty acid profile of the meat, and consequently diminish the nutritional benefits that grass-fed meats provide.

However, FACT supports clarifying the ambiguities in the language of the proposed Claim and Standard and the Background section preceding the proposed Claim and Standard. In particular, the use of "grain in the immature stage" in the Background language and the term "crop residue without separated grain" in the proposed Claim and Standard needs further definition.

The current rule as proposed allows "forage, or stockpiled forages, and post-harvest crop residue without separated grain" to comprise up to 99 percent of the lifetime energy source for animal whose meat products could qualify for the grass fed label. Although the proposed rule does not make direct reference to the presence of attached grain in these permitted feedstuffs, the background statement preceding the proposed rule allows consumption of "seeds naturally attached to herbage, forage, and browse or grain in the immature stage."

The development stages of cereal grain crops, legume grain crops, and grasses are markedly different. Livestock farmers routinely harvest corn and other grains for silage before the final "dry down" phase. These moisture-heavy crops can lead to grain levels as high as 20-40 percent in stockpiled forage.

Given the ambiguity of the language highlighted above, and the common harvesting and stockpiling practices routinely employed by livestock farmers, clarification must exist that eliminates any confusion about the types of feedstock permitted under the rule.

Therefore, FACT supports the following language:

[41] Meyer, Ann. "A Growing Market for Natural Foods," Chicago Tribune, July 17, 2006.

> Grass (Forage) Fed--Grass (annual and perennial), forbs (legumes, brassicas), browse, forage, or stockpiled forages, and post-harvest crop residue without separated grain **(excluding standing crops of large grain species that have reached the milk stage, or legume grain that has reached ten percent pod fill)** shall be at least 99 percent of the energy source for the lifetime of the ruminant specie, with the exception of milk consumed prior to weaning. Routine mineral and vitamin supplementation may also be included in the feeding regimen. Grass (forage) fed claims will be verified, as provided in 7 CFR part 62, by a feeding protocol that confirms a grass or forage-based diet that is 99 percent or higher.

This language (clarifications in bold) provides an important distinction between grain and grass species that is not fully articulated with the phrase "seeds naturally attached to herbage…in the immature stage" currently included in the proposed Claim and Standard and Background language.

In addition, FACT recommends that that the following language be considered for inclusion in the Background section, preceding the proposed Claim and Standard, at the end of the fourth sentence: "Haylage, bayleage, silage, and ensilage containing more than 1 percent large grain species that have reached the milk phase, or legume grain that has reached ten percent pod fill are prohibited nutrient sources." This provides clarification to those producers seeking a grass fed label that any significant amount of grain feed will not be permitted.

Additional Meat Marketing Claims

FACT applauds AMS for publishing the 99 percent grass fed standard for comment in the Federal Register. We ask that this 99 percent standard, with the proposed clarifications, be adopted at the earliest possible time following completion of the public comment period.

FACT also strongly encourages AMS to issue proposed standards for the remaining process-verified production claims: livestock raised without antibiotics, livestock raised without added hormones, and a free-range/free-roaming/pasture-raised claim. For many producers, these claims are complementary to their grass fed systems and will provide additional and important information to the consumer about their production practices.

Thank you.