

# Producer perceptions of the importance of challenges currently facing the United States grass-finished beef industry

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# **ABSTRACT**

Consumer interest in grass-finished beef in the United States has risen in recent years, motivating farmers to increase grass-finished beef production. A survey was conducted to determine perceptions among United States grassfinished beef producers of important challenges facing the industry. Of the 5 United States regions specified, 30% of our respondents were located in the Midwest, which represented the highest percentage of all regions. The Southwest was the least represented with 15% of the responses. Seventy percent of respondents held 4-yr college degrees, and the average age was 55 yr. Using an ordered probit model, opinions on the importance of challenges faced by grass-finished beef producers were analyzed. Using categorical responses ranging from 1 =strongly disagree to 5 = strongly agree, 4 items were selected by respondents as the most important challenges facing grass-finished beef producers. Shortage

of processors, lack of a clear marketing system, pasture-management problems, and the long period of time required to get animals to the desired market weight had means of 3.77, 3.72, 3.71, and 3.67, respectively. The modal response for each of these 4 items was "strongly agree." Farmer demographic and farm characteristics were found to influence producers' perceptions of the importance of each of the challenges to the grassfinished beef industry. Integrated efforts from industry, government, and research and extension institutions are needed to address these challenges.

**Key words:** beef industry, challenge, grain-fed beef, grass-finished beef

### INTRODUCTION

An increase in United States grassfinished beef production in recent years has been the response to growing consumer demand and the opportunity for small farmers to continue to be engaged in farming. By most accounts, consumer demand for grassfinished beef has increased over the

past couple of decades (Umberger et al., 2009). This resurgence in interest calls for industry and universities to consider the needs of this segment. Recent studies have addressed the effect of grass-finished beef production systems on animal productivity (Scaglia et al., 2012; Schmidt et al., 2013; Scaglia et al., 2014) and meat and carcass characteristics (Leheska et al., 2008; Steinberg et al., 2009; Scaglia et al., 2012), as well as consumer preferences for grass-finished beef (Conner and Oppenheim, 2008: Umberger et al., 2009; Xue et al., 2010). Relatively few (Martin and Rogers, 2004; Gwin, 2009; Steinberg and Comerford, 2009), however, have addressed the challenges associated with grass-finished beef production. We are unaware of any recent studies that have assessed industry challenges from a sample of the population of United States grass-finished beef producers.

Steinberg and Comerford (2009) found that meat-product consistency, time for selling and promoting products, identification of new markets,

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316 Sitienei et al.

and identification of new customers were among the most important problems associated with grass-finished beef production. Production-related challenges faced by grass-finished beef producers have included inconsistency in the supply of cattle for slaughter (seasonality) and forage quality, as well as lack of enough pasture land for grazing (Wilson, 2001; Martin and Rogers, 2004). Other concerns raised by Martin and Rogers (2004) were insufficiency of grass-finished beef supply to satisfy packer capacity, transportation costs of grass-finished beef to market, availability of distribution channels, and strength of consumer demand for grass-finished beef.

In this study, we consider the major challenges facing grass-finished beef producers with the hope of providing industry and university personnel with information about development needs of the grass-finished beef segment. The main objective of our study was to determine perceptions of United States grass-finished beef producers of the importance of 11 chosen potential challenges facing the industry.

## MATERIALS AND METHODS

### Experimental Design

This study used data from a 2013 mail survey of United States grass-finished beef producers. Development and administration of the survey questionnaire was guided by procedures outlined by Dillman et al. (2007). Information was solicited on farm-management practices, marketing, goal structure of grass-finished beef producers, and producer opinions of major challenges facing the industry.

The survey was sent to a total of 1,052 United States grass-finished beef producers on August 10, 2013, following the tailored design method of Dillman et al. (2007). Names and addresses of grass-finished beef producers to be contacted were obtained from an extensive Internet search. Primary Internet sources included www. eatwild.com, the American Grassfed

Association, Market Maker, and websites of individual grass-finished beef farms. A total of 384 usable surveys were received. Returns from individuals no longer in the grass-finished beef business and nondeliverable addresses totaled 117. After adjusting for these, a 41.1% return rate was obtained. Although similar return rates were obtained by Gillespie et al. (2007) (41%) and Gillespie et al. (2013)(43%) in their surveys of conventional United States beef producers and United States meat-goat producers, respectively, these return rates are much higher than most farm surveys, for example Patrick et al. (2007) with midwestern United States hog producers (26%), Banerjee et al. (2008) with southeastern United States cotton producers (10%), Paudel et al. (2008) with Louisiana dairy farmers (15%), Pushkarskaya and Vedenov (2009) with Kentucky tobacco farmers (14%), and Bergtold and Molnar (2010) with southeastern United States limited-resource farmers (14%). To gain perspective on the portion of total beef production our respondents represent, USDA-NASS (2013) reported 42.8 billion pounds of cattle slaughtered in 2012; our respondents report 35.0 million pounds of cattle finished on grass in 2012. Thus, our sample represents approximately 0.08% of the total cattle finished in 2012. Gwin (2009) estimated that less than 0.5% of cattle in the United States had been finished on grass.

In the questionnaire, information regarding farm size, involvement in other farm enterprises, major breeds raised, technology use, marketing channels used, and certified organic status were solicited. Important to our present study was the question addressing their perceived importance of challenges facing grass-finished beef producers: "To what extent do you agree or disagree that the following challenges are having significant negative impacts on grass-fed (finished) beef producers in your area? Please select a number in each category based on the headings provided." The numbers were associated with the following respective responses: strongly

agree, somewhat agree, neutral, somewhat disagree, and strongly disagree. The following were the listed challenges: (1) shortage of processors close by that will handle grass-fed (finished) beef, (2) lack of a clear marketing system for grass-fed (finished) beef, (3) strong market competition from feedlot beef, (4) lack of steady demand for grass-fed (finished) beef, (5) transportation and distribution problems of grass-fed (finished) beef, (6) high cost of grass-fed (finished) beef production, (7) pasture-management problems, (8) limited land available for grazing, (9) long period of time required to get animals to slaughter weight, (10) grass-fed (finished) beef production being labor intensive relative to cow-calf production, and (11) diseases.

To determine the 11 challenges to be included in the survey, extensive review of literature on topics focusing on grass-finished beef production and marketing challenges was undertaken. Literature reviewed included studies by Mills (2003), Martin and Rogers (2004), Gwin (2009), Steinberg and Comerford (2009), and Mathews and Johnson (2013). Furthermore, in-depth personal interviews with 10 Louisiana grass-finished beef producers provided insights into the important challenges they faced. In this paper, summary statistics comprising means, modes, and standard deviations are presented for responses to each challenge. Ordered probit models are estimated to determine the drivers of the importance of challenges that grass-finished beef producers perceive to pose significant negative effects to producers in their areas.

# The Ordered Probit Model

Use of ordered probit models allowed us to determine the factors affecting producers' perceptions of the importance of each of the 11 challenges. This model is useful in multivariate analysis where there is an ordinal dependent variable and the researcher desires to determine the effect of potential drivers on the dependent variable. In our case, each statement

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