



How important is farm profitability to meat goat farmers?¹

Narayan P. Nyaupane,^{*2} Jeffrey M. Gillespie,[†] and Kenneth W. McMillin[‡]

^{*}Noble Research Institute LLC, 2510 Sam Noble Parkway, Ardmore, OK 73401; [†]Market and Trade Economics Division, Economic Research Service, 355 E Street SW, Washington, DC 20024-3221; and [‡]School of Animal Sciences, Louisiana State University Agricultural Center, 116 Francioni Hall, Baton Rouge 70803

ABSTRACT

This study investigates United States meat goat producers' goal structure and examines whether these goals are consistent with farm profitability. Data were collected using a nationwide mail survey, and 7 potential goals of meat goat farmers were analyzed. Results showed that “maximize profit” and “have family involved in agriculture” were the 2 most important goals, whereas “control weeds/vegetation” and “increase farm size” were the least-ranked goals. Regression results showed that farmer demographics, farm characteristics, economic indicators, and regional variables affected farmer goal structure. Results did not support a correlation between farm profitability and profit-maximizing goals such as “maximize profit” and “avoid years of loss/low profit.”

Key words: goal structure, meat goat, profitability *Journal of Economic Literature* classifications: Q11, Q12, Q19

INTRODUCTION

The United States meat goat industry has grown rather dramatically over the last couple of decades, spurring interest in the reasons for its growth and its prospects for further expansion. From 1987 to 2012, numbers of meat goat farms and inventory (total head) in the United States increased from 29,354 to 100,910 and 415,196 to 2,053,228, respectively (USDA-APHIS, 2005; USDA-NASS, 2012). This increased production resulted primarily from greater demand, mostly by immigrants from goat meat consuming countries; the establishment of meat goat producer associations; a shift from Angora goats and mohair production to meat goats as driven by changes in United States agricultural support (mohair) policies; and a shift from tobacco production on small landholdings to meat goats in response to the United States tobacco settlement (Shurley and Craddock, 2005). Despite these production increases, domestic production has not kept up with the rapid growth in goat meat demand, resulting in the Uni-

ed States relying heavily on imports from Australia and New Zealand (Shurley and Craddock, 2005).

Although the meat goat industry shows promise for further growth due to the demand for goat meat (Liu et al., 2013), the goal structure of meat goat farmers will affect the extent of farmer investment, engagement, and involvement in the enterprise, which will ultimately affect production. Harper and Eastman (1980) argued that farmer accomplishments depend largely upon their goals and objectives for the farm. Management decisions are driven largely by farmer values and goals that are related to family, society, the environment, and leisure (Isubikalu et al., 1999; Brodt et al., 2006). This suggests that farmer goal structure has a strong effect on how farmers make decisions, ultimately influencing aggregate supply. Therefore, understanding the goal structure of farmers is of interest as we investigate the potential for growth and development of the meat goat industry. The objectives of this study were to determine the goal hierarchy of meat goat farmers and the factors influencing their goal hierarchy.

Goals can be defined as ends or states for which a person aims. They may be ultimate ends or may be steps in the process of achieving other goals (Gasson, 1973). Economists commonly assume profit-maximizing or cost-minimizing behavior in prescribing recommended strategies to farmers. Although these assumptions are powerful in determining prescriptive economic solutions, they are limited in their capacity to describe actual farm allocation decisions. Maximizing profit or minimizing cost are rarely the only motivations for establishing a farm (Kliebenstein et al., 1980). In some cases, economic considerations will be eclipsed by motivations more closely related to lifestyle. Previous studies examining farmer goals and motivations for different agricultural enterprises (e.g., Harper and Eastman, 1980; McEachern and Willock, 2004; Tregear, 2005; Basarir and Gillespie, 2006; Peterson et al., 2012) have shown that farmers generally have multiple goals such as economic, environmental, and lifestyle-related goals.

There are several reasons meat goat farmers could have different goals for their farms than farmers of other enterprises. Meat goat grazing preferences differ from other ruminants, providing help in controlling weeds and brush. For landowners whose primary motivation is to maintain their land, goats can provide significant benefit. Goats can graze complementarily alongside other livestock, such

The authors declare no conflict of interest.

¹The views expressed are those of the authors and should not be attributed to the Economic Research Service or USDA.

²Corresponding author: nnyaupane@noble.org

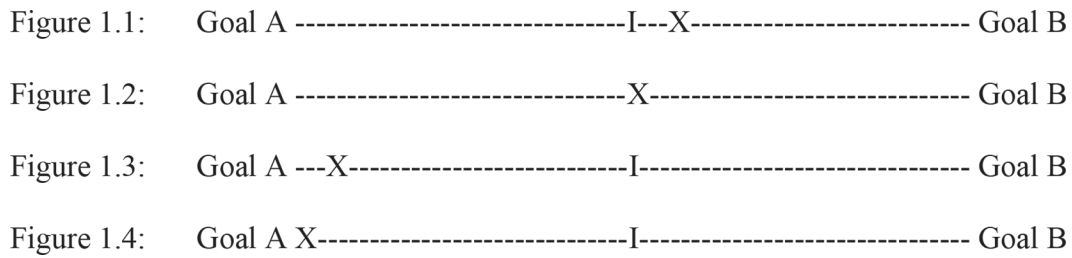


Figure 1. Illustration of 4 potential responses using the fuzzy pair-wise comparison method.

as cattle, because of their different grazing preferences. Gillespie et al. (2016) found that the statement “goat grazing preferences are different from other species” was the fourth-most important of 14 reasons why meat goat farmers had elected to produce meat goats. Qushim et al. (2016) determined that meat goat farms are scale efficient at 64 goats, suggesting that meat goats can be raised efficiently on farms of <8 ha (20 acres). [Farms in the “Midwest” and “Texas/Oklahoma” had higher average numbers of goats per land area used for the goat operation (12.8 and 14.8 goats/ha, respectively) as compared with the other 3 regions. Farms in the “Midwest” primarily used “pastured not rotated” and “pastured rotated” systems, whereas those of “Texas/Oklahoma” used “pastured rotated,” “extensive,” and “dry lot” systems for raising goats. The greater use of “dry lot” system in “Texas/Oklahoma” contributed to its greater average number of goats per acre used for the goat operation.] Thus, meat goats are an enterprise option for small hobby, part-time, and lifestyle-oriented farmers.

Gillespie et al. (2016) found that hobby farming and lifestyle-related reasons were more important than economic reasons in farmer selection of a goat enterprise. Goats are relatively easy to handle and in some cases are kept as pets or as show livestock for youth. Women account for a substantial portion of meat goat farmers. The survey on which the current study is based suggests that about 41% of meat goat farmers are women, compared with results from Hoppe and Korb (2013), which indicated about 14% of United States farm operators are female. United States meat goat farmers are older, on average, than United States cattle and hog farmers, which is attributed to the production of meat goats in retirement for lifestyle reasons (USDA-APHIS, 2005). In sum, United States meat goat production and its farmers differ somewhat from farmers of other agricultural enterprises, which raises the question of what affects their goal structure.

MATERIALS AND METHODS

Goal Hierarchy Elicitation and Estimation

The fuzzy pair-wise comparison method (Van Kooten et al., 1986) was selected for this study to elicit the goal hierarchies of meat goat producers. A mail survey of meat goat farmers was conducted in which the following information was provided: “Goat producers may have multiple

goals with respect to their farms. Below are some potential goals you may have for your entire farm operation. Some goals are likely to be more important to you than others. In this section, you will be asked to compare each of 7 goals with each of the other goals. We are interested in how important each goal is when compared to the other goals. Questions will be worded similar to the one in the following example.” This was followed by 3 examples of possible answers in an illustration as shown in the next paragraph. Respondents were asked to indicate their ratings of importance for a series of 21 goal pairs based on the examples shown. With a total of n goals, there would be $n \times (n - 1)/2$ total pair-wise comparisons.

Using the fuzzy pair-wise method, 2 goals are placed on a unit-distance line as in Figure 1 where respondents may mark an “X” anywhere across the line based on their ratings of importance for each. The midpoint (which indicates the goals are equally important) is shown so that respondents can locate their preference clearly. If respondents weight both goals equally, then they can mark an “X” on the midpoint. The closeness to which the “X” is marked to one goal versus the other indicates the degree of importance for that goal over the other.

Considering the total distance between goal A and goal B is a unit value, the respondent’s degree of importance of goal A relative to goal B (R_{AB}) is expressed by the distance of mark “X” from goal B. If $R_{AB} < 0.5$ and B is slightly more important than A, then Figure 1.1 shows how the respondent might indicate his or her goal rating. If $R_{AB} = 0.5$, then A and B are equal in importance and Figure 1.2 shows how the respondent might indicate his or her goal rating. If $R_{AB} > 0.5$ and A is much more important than B, then Figure 1.3 shows how the respondent might indicate his or her goal rating. If $R_{AB} = 1$ and A is absolutely preferred to B, then Figure 1.4 shows how the respondent might indicate his or her goal rating (Van Kooten et al., 1986).

By measuring the distance from goal A to the marked “X,” the degree of importance (R_{ij} , $i \neq j$) of one goal i over the other j is obtained for each pair and the degree of importance of goal j over i can be estimated as $R_{ji} = 1 - R_{ij}$. Basarir (2002) provides a fuller discussion of the calculation of relative importance of each goal. Effects of farm descriptors and farmers’ socioeconomic variables on goal structure are determined by using ordinary least squares (OLS) regression. [Seemingly unrelated regression

Download English Version:

<https://daneshyari.com/en/article/8503730>

Download Persian Version:

<https://daneshyari.com/article/8503730>

[Daneshyari.com](https://daneshyari.com)