Economics of Callipyge Lamb Production

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ABSTRACT: This paper examines the economic implications of callipyge (CLPG) lamb production. The price, as it relates to competing meats and excess fat, significantly impact lamb demand, and CLPG genetics improves those factors. The CLPG phenotype does not affect number or weight of lambs weaned or postweaning ADG, but it does improve postweaning feed efficiency by approximately 10%; dressing percentage approximately 7.5%; and yields of wholesale leg (11.8%), loin (4.7%), rack (2.5%), and shoulder (2.3%). Total production costs for a 59-kg lamb are 4% lower in CLPG lambs due to improved feed efficiency. Assuming pelt and offal value pays for slaughter costs, the costs of normal (N) and CLPG carcasses are the same as for live lambs, $81 and $78, respectively; but, due to dressing percentage, the N carcass weighs 29.2 kg and the CLPG carcass, 31.4 kg. Thus, carcass costs for N and CLPG lambs are $2.77/ kg and $2.49/kg, respectively. Decreased feed costs, combined with increased carcass and primal cut yields for CLPG lambs, lowers the price required to recover meat costs for leg, loin, rack, and shoulder by 19.7, 14.4, 12.6, and 11.9%, respectively. Successful marketing of CLPG loin and rack depends on the use of one of several postharvest tenderization procedures. Moisture-enhanced pork is accepted by consumers and often sells for a premium; and moisture enhancement may be appropriate for CLPG lamb. The meat cost per kilogram (including a $.10 per kilogram treatment cost) of tenderized and moisture-enhanced CLPG leg, loin, rack, and shoulder containing 10% added water and ingredients would be lowered to $2.51, $4.65, $5.34, and $1.85, respectively. That represents a total of a 20.9% reduction in cost-basis price. When expressed on the basis of increased revenue from the additional yield of cuts at a given market price, the value of CLPG and moisture-enhanced CLPG cuts from a 59-kg lamb would be, respectively, 14.2% and 23.4% higher than for N lamb. Industrywide adoption of CLPG could increase intermediate-run U.S. profits by $109 million, but the actual effects of CLPG attributes, such as a visual appeal, lower fat and cholesterol content, and reduced seam fat, on consumer demand need to be quantified. If accepted by packers and consumers, moisture-enhanced CLPG lamb has the potential to decrease the cost of lamb to consumers and increase lamb industry profitability.

Key Words: Callipyge, Lamb (meat), Economics, Production Costs

Introduction

United States lamb production has been declining since 1942. Many factors have contributed to that decline, including predation losses, increased cost and decreased availability of grazing lands, loss of government incentive programs, and, perhaps most importantly, decreased demand (Bastian and Whipple, 1998). Price relative to competing meats, excess fat, and lack of convenient cuts are important factors affecting lamb demand (Purcell, 1995, 1998; Ward et al., 1995; Field and Whipple, 1998). Lambs exhibiting the callipyge (CLPG) phenotype are superior to normal (N) lambs in economically important traits, such as feed efficiency, dressing percentage, and yield of retail cuts (see Shackelford et al., 1998 for review), resulting in lower unit production costs for CLPG retail cuts. Furthermore, retail cuts from CLPG lambs have less fat and cholesterol than do normal cuts.

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