

34 Crambe meal as a successful protein supplement for growing beef steers. V.L. Anderson, S.L. Boyles, W.D. Janger, and J.S. Caton, North Dakota State University, Fargo.

Crambe meal is a high protein (35% CP) residue from whole crabe seed (*Crambe abyssinica*) processed for recovery of high erucic acid vegetable oil. The objective of the research was to evaluate the usefulness of this by-product as a protein source for beef cattle. Seventy-two Charolais sired steers (303.4 kg BW) were allotted to one of four pelleted, isonitrogenous protein supplements. Sources of protein provided by these supplements were 100% soybean meal (SBM), 67%SBM:33% crabe meal (CM), 33%SBM:67%CM, and 100%CM. Other ration ingredients were dry-rolled corn, corn silage, and ground wheat straw. Dry matter intakes of CM were .43, .87, and 1.31 kg/d per head for 100%SBM, 7%SBM:33%CM, 33%SBM:67%CM, and 100%CM, respectively. Six steers were allotted to each of 12 pens for three replicates per treatment. Initial and final weights were the averages of two consecutive weights at 24 h intervals. Weights were also taken at 28 d intervals. The duration of the trial was 84 d. Feed intake was similar among treatments. Body weights were similar at 0 (P = .84), 28 (P = .66), 56 (P = .91), and 84 (P = .87) d. Average daily gains ( $\pm 0.0467$ ) were 1.38, 1.41, 1.38, and 1.38 kg/d for 100%SBM, 67%SBM:33%CM, 33%SBM:67%CM, and 100%CM, respectively (P = .92). Feed efficiencies were also similar across treatments (P = .67). These were .158, .161, .153, and .154 ( $\pm 0.005260$ ) for the four treatments, respectively. Crambe meal substituted equally for soybean meal and resulted in no adverse effects on intake or performance.

Key Words: Crambe Meal, Beef Steers, Protein Supplements

## EXTENSION

35 Kansas State University Lean Value Marketing Program: I. Influence of wholesale cuts and backfat thickness on carcass value. G. L. Keeler\*, M. D. Tokach, J. L. Nelssen, R. D. Goodband, and S. S. Dritz, Kansas State University, Manhattan.

The KSU lean value marketing program was an extension project conducted to help Kansas swine producers understand the value of their pigs when marketed on a wholesale cut basis. Thirty-four producers were asked to each supply 25 gilts weighing 104 to 113 kg. Pigs were slaughtered at a small packing plant in central Oklahoma whose grade and yield program is based on wholesale cut value. Carcasses were weighed individually and backfat measurements were taken at the first, tenth, and last ribs; and last lumbar vertebrae at the midline on each hot carcass. Wholesale cuts were weighed on a group basis. Based on the June 22, 1992 USDA Blue Sheet for wholesale cut prices, carcass values ranged from a high of \$128.51 to a low of \$122.35 with a mean carcass value of \$125.79. The difference of \$6.16 between the highest and lowest carcass values represented a difference in income of \$24,640 for the average producer in the program who would market 4,000 hogs per year. Loins only represented 21% of the carcass weight. However, loins were the wholesale cut most closely correlated (P < .0001; r = .84) with carcass value. Other wholesale cuts that positively influenced (P < .003) carcass value included hams (r = .46) and Boston butts (r = .61). Decreased carcass value was most closely associated (P < .001) with percent bellies (r = -.62) and fat rim (r = -.87). Mean tenth rib backfat for gilts from each farm ranged from 23 to 46 mm, with an average of 28 mm. Decreased tenth rib backfat was positively correlated (P < .001; r = .55) with carcass value, but explained less of the variability in carcass value than percent loin. The imperfect relationship between backfat thickness and carcass value was demonstrated by three groups that had a mean backfat at the tenth rib of 23 mm, yet ranked first, fifth and ninth among the 34 groups in actual carcass value. Therefore, carcass programs based entirely on backfat measurement do not accurately reward lean, heavy muscled pigs. Standard deviation for backfat within each farm ranged from 2.0 to 6.9 mm indicating that 95% of the gilts from these farms would have a range in backfat of 8.0 mm (4.0 mm above and below the mean) for the best farm and 27.6 mm (13.8 mm above and below the mean) for the worst farm. Standard deviation of backfat provided producers with important information on the uniformity of pigs marketed from their farm. This extension program demonstrated to producers the large economic incentive of producing uniform, lean, heavy muscled pigs.

Key Words: Carcass Composition, Pigs, Marketing.

56 Kansas State University Lean Value Marketing Program: II. Influence of sort loss, grade, and yield premiums on market returns. G.L. Keeler\*, M. D. Tokach, J. L. Nelssen, R. D. Goodband, and S. S. Dritz, Kansas State University, Manhattan.

The KSU lean value marketing program was an extension project developed to help Kansas swine producers understand grade and yield buying programs and to determine the value of their pigs when marketed on a wholesale cut basis. Thirty-four producers were asked to supply 25 gilts weighing 104 to 113 kg. The gilts were slaughtered at a packing plant in central Oklahoma whose grade program is based on actual wholesale cut value. Sort loss is the penalty for carcasses which are outside of the optimum weight range when selling pigs on a carcass merit program. The optimum carcass weight range for this plant was from 72 to 82 kg. This translates to approximately 97 to 115 kg on a live weight basis. The amount deducted for sort loss is based entirely on carcass weight. Yield, live weight, grade, backfat and lean meat percentage has no bearing on the amount deducted for sort loss. The deduction for sort loss with the farms in this program averaged \$1.08 (0 to \$4.95) per head due to not marketing pigs in the proper weight range. Five producers had no sort loss deducted while one producer had a deduction of \$4.95 per head. The average sort loss of \$1.08 translates into \$4,320 for the average producer in this program, who markets 4,000 market pigs per year. While sort loss does not reflect the quality of the pigs being marketed, it has an enormous impact on the profitability using carcass merit buying programs. The farms in this program with no sort loss routinely weigh all pigs individually before marketing. Yield is carcass weight divided by live weight and, thus, is used by packers to back calculate from a carcass price to live price. Yield was not positively correlated with grade (P > .2; r = -.21) and, thus, should not be construed as a quality premium. However, yield is valuable information for determining the optimal live market weight to allow minimal sort loss. Grade premium is the extra value a producer receives for producing a superior lean pig as compared to a carcass with average leanness (plant standard). The packing plant used in this study calculates carcass premium by weighing wholesale cuts and comparing actual dollar value of these cuts to a standard USDA value. The grade premium per head averaged \$3.39 (\$0.6 to \$6.04). The \$3.39 per head grade premium would result in a total yearly income of \$13,560 for the average producer in the program. This extension program provided producers with economic insight concerning their marketing practices and the value of pigs that they are currently producing.

Key Words: Pigs, Marketing.