Project Title: An Evaluation of the Dual-Component Video Image
                                Analysis System (VIASCAN™) as a Predictor of Beef
                                Carcass Red Meat Yield Percentage for Augmenting
                                Application of USDA Quality and Yield Grades

Principle Investigator(s): R.C. Cannell, J.D. Tatum, K.E. Belk and G.C. Smith

Institution(s):   Colorado State University

Completion Date: July 1998

Layman's Summary:

In this study a total of 240 steer and heifer carcasses were selected and subjected to a hot carcass video assessment camera and a cold carcass camera. Yield grading parameters were taken and compared to USDA assigned grades. Expert USDA grades were also assigned to the carcasses. The carcasses were then fabricated into commodity and closely trimmed cuts. The results indicate that VIASCAN™ assessments predicted fabrication yields better than Yield Grades assigned by line graders and approached the accuracy of Yield Grades assigned by expert-graders. Using the video assessed ribeye measurement along with other expert yield parameters resulted in predictive accuracy of yield estimates made by the expert-graders. Sorting carcasses into yield classes, by use of the hot carcass assessments, could provide plant personnel with product inventory estimates of what they have and need to sell.

The VIASCAN system was unable to predict tenderness. VIASCAN™ marbling score assignments were somewhat correlated to USDA marbling scores assigned by expert-graders. However, marbling scores in this study were not highly correlated with the tenderness traits of steaks. This could partially be due to the narrow range of variation in tenderness and marbling scores of the carcasses in this study.

Further studies of the VIASCAN for predicting palatability of steaks, using measurements form side/carcasses, should be conducted using populations of carcasses (and cuts) expected to differ quite widely in flavor, juiciness and tenderness.