

Project Summary

Development of a Cutting Test Tutorial and the Beef Computer Assisted Retail Decision Support System (CARDS) to be Integrated with the Bovine Myology Web site

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Background

The Bovine Myology and Muscle Profiling Web site has become an industry standard for the muscular anatomy of the beef carcass and it provides physical and chemical information that will help drive new uses of beef. The site is used to train meat cutters and assist meat graders and chefs in identifying the appropriate cuts of meat. However, one piece that is missing is the economic analysis of the new methods of carcass fabrication.

The objectives for this project were to:

1. Unite Bovine Myology with Beef CARDS
 - a. Integrate quantitative financial analysis with 3-D visual images
 - b. Educate users with videos of standardized procedural retail cutting tests
 - c. Allow users to anatomically identify and select muscle cuts by differentiating the physical and chemical muscle characteristics to make an economically based decision
2. Develop a user friendly Web site for retailers, foodservice & educators
 - a. Individual customizable workspace
 - b. Users access storage and retrieval of their own data for performing and comparing analysis

Methodology

Data Collection Plans

- Spreadsheets formatted with data inputs, equations and outputs to be used in developing databases for cutting and financial decision tools

Database Development

- Used Waterfall method (software modeling) to organize the application logic which was resolved using Javascript and a relational database management system (MySQL) to convey into its data structure
- Defined a schematic of the hierarchical IMPS subprimal, and converted this into a mutually exclusive database, where selections are dependant upon previous selections. The development of this hierarchical relationship used a “parent” and “child” relationship to define pathways to wholesale location, subprimal IMPS, retail cuts or subdivision or subprimal IMPS

Tutorials

- Standardized Cutting Test Tutorial: Developed a procedures worksheet, data collection worksheet, storyboard narrative and video used to give procedures for user to perform in-store cutting tests
- Decision Tool Tutorial: Developed cutting test worksheet, storyboard narrative, PowerPoint slides, Web site screenshots and video that provide a navigational guide to data inputs and outputs. The decision tool tutorial provides a navigational structure of data entry into the decision tool Web site and an explanation of terminology used in the decision tool

Decision Tool

- Cutting Test Decision Tool: Database equations were developed to calculate outputs for total weight retail cuts/trimmings and the percentage subprimal yield. User is able to record data for retail cuts/trimmings made from subprimal; outputs are then further used in pricing decisions.
- Financial Decision Tool: Database equations for each retail cut selected by the user for the subprimal cutting test to set markup price by inputting either current retail price/lb to find the percent margin or desired margin percentage to set the retail price per pound.

Web site Design and Programming

- Web site design material and methods include: Adobe Photoshop, Dreamweaver, and Image Ready to prepare graphics and layout for Web design
- Web site programming materials and methods include: blueprint of decision tool equations and variable, Waterfall software modeling for components of Decision Support System, Javascript for application logic, MySQL for Relational Database Management System, PRLL for programming language, Apache webserver running on Linux, Javascript as a Document Object Model, URL book-marking, DHTML or Dynamic HTML

Findings

The Retail Beef Decision Tool (RBDT) is an internet based economic decision tool for beef retailers linked with the Bovine Myology Muscle Profiling website. The cooperation will allow users to anatomically identify and select muscle cuts by determining the physical and chemical muscle quality characteristics to make a profitable decision. The RBDT is a Decision Support System website that will allow users to navigate a website in performing calculations for both retail beef cutting tests and financial analysis. Users will be able to print the input and output variables to obtain records for individual subprimal cutting tests. The use of a Decision Support System would also provide the nomenclature and cutting options in the retail beef industry. Its incorporation will allow alternative fabrication and cut substitution cutting and pricing scenarios to be determined.

The Retail Beef Decision Tool Center webpage navigational links will consist of the following contents: introduction, development, tutorials, decision tool, credits and related links,

Implications

The Retail Beef Decision Tool could increase overall beef demand by determining the net retail cost per pound and the retail product's actual market value. By determining the actual market value, retailers will be able to set a fair markup price that is reflective of the retail cut's net retail cost and actual value. This method of price determination could increase overall beef demand as the determination of actual market value and establishing a fair markup price could increase total sales volume. This increase in demand can then be passed onto the other segments in the beef industry.

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