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"Beef Production Strategies" article

Computerized Decision Aids for Beef Producers

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More and more beef producers use computers to help manage operation production records and finances. The National Animal Health Monitoring System BEEF '97 survey revealed that only 13% of beef cattle operations across the U.S. used a computer for record keeping in 1997. Computer use in beef operations has risen dramatically in recent years, however. A November 2000 BEEF magazine article cited that nearly 52% of BEEF readers surveyed regarding their use of electronic technology used a computer in their beef operation, and 47% used the Internet. A 2005 survey of beef producers in the Tennessee Master Beef Producer program reported that 92% of respondents said that they either already used or intend to use a computer in their beef operations, and only 17% did not already have Internet access. The National Agricultural Statistics Service 2005 annual farm computer usage report indicated that 23% of Mississippi farms used computers for farm business (up from 17% just two years before), and 37% of Mississippi farms had Internet access (up from 29% in 2003).

As computer usage among producers continues to increase, computer programs available for beef cattle production record keeping and decision making continue to be developed and updated. Many of these computerized decision aids come from land grant universities and are offered at little or no cost to producers. A few computer programs and interactive Internet sites designed with beef producers in mind are listed below.

Cattle Marketing and Economics Decision Tools

Interactive Beef Cattle Web Budgets
ruralbusiness.tamu.edu/beef/index.htm

Interactive Beef Cattle Enterprise Budgets
www.ces.uga.edu/Agriculture/agecon/interactive.htm

Links to Information about Cattle Markets
www.agecon.msstate.edu/extension/marketnews/Livestock/cattle/index.php

Sale Barn Calculator
www.iowabeefcenter.org/content/ibcproducts.htm
The Sale Barn Calculator is an application designed for handheld computers using Palm OS operating systems and can be used to quickly figure a maximum bid per cwt for livestock entering a sale ring.

Feeder Cattle Bid Calculator
www.iowabeefcenter.org/content/ibcproducts.htm
This program is a Microsoft® Excel spreadsheet which calculates feeder cattle breakeven purchase prices across a user-defined range of corn grain prices and finished cattle sale prices.

Breakeven Calf Buying and Selling Price Worksheets
beefstockerusa.org/calc.htm

Buy Sell Margins Calculator
http://economics.ag.utk.edu/soft.html
The University of Tennessee Buy Sell Margins Calculator program allows users to look at historical buy/sell margins (the difference between a feeder calf or yearling purchase price and a sale price at some later date) for selected buy/sell periods. The program will calculate the minimum (worst), average, and maximum (best) buy/sell margins for the past 10 years based on user selections of both buying and selling months, state, sex, weight ranges, and grades.

Cattle Market Planner
www.iowabeefcenter.org/content/ibcproducts.htm
The Cattle Market Planner is an Excel spreadsheet application which calculates futures and options strategies for beef producers.

Spreadsheet for Evaluating Preconditioning Programs for Weaned Calves
www.ansi.okstate.edu/software/
This spreadsheet can be used to examine the economic aspects of preconditioning programs.

OSU Stocker Planner
www.ansi.okstate.edu/software/
This program is intended to evaluate the purchase of cattle in a stocker cattle and pasture or wheat farming program.

Program to Estimate Feedlot Breakeven Purchase Price
www.ansi.okstate.edu/software/
This program is designed to estimate the necessary purchase price of feeder cattle with the objective of a feedlot breakeven.

Program to Estimate Feedlot Cost of Gain
www.ansi.okstate.edu/software/
This program estimates cattle performance and financial aspects of cattle feeding.

OSU FEEDLOT
www.ansi.okstate.edu/software/
This is a program which simulates feedlot cattle performance.

Grid Marketing Calculators
www.iowabeefcenter.org/content/ibcproducts.htm
The purpose of these two Grid Calculator programs is to allow the user to utilize historical carcass data for the estimation of cattle market performance in various grid markets. IBC Grid Calc Simple is set up to use basic carcass data (hot carcass weight, quality grade and yield grade) plus hide color to estimate market returns, while IBC Grid Calc Full uses complete carcass data (hot carcass weight, rib eye area, fat cover, % KPH, and quality grade) to do the same process.

Cattle Identification Decision Tools

Mississippi Board of Animal Health National Animal Identification System Online Premises Registration Form
www.mbah.state.ms.us/AnimalID/watson_app.htm

Estimating Costs of Radio Frequency Identification Systems Spreadsheet
beefstockerusa.org/rfid/
This Excel spreadsheet can be used to calculate the cost of electronic identification for a cowherd, stocker, or feedlot operation. Both online calculator and downloadable Palm OS versions are available.

Forage and Pasture Decision Tool

Field and Pasture
www.iowabeefcenter.org/content/field_and_pasture.htm
Field and Pasture is an application designed for handheld computers using the Palm OS. This application can be used as a reference to determine plant populations in a field or pasture, yield estimation of forage dry matter or grain per acre, bushels of stored grain in bins or piles, and as a quick note pad regarding a given field or pasture.

Breeding Management Decision Tools

Estrus Synchronization Planner
www.iowabeefcenter.org/content/estrussynchplannermain.htm
The Iowa Beef Center at Iowa State University and the North Central Region Bovine Reproduction Task Force offer an Excel spreadsheet program for planning cattle estrus synchronization and breeding. The Estrus Synchronization Planner features 22 synchronization systems, heat detection and artificial insemination (AI) systems, heat detection and cleanup AI systems, fixed-timed AI systems, recommendations of various systems for cows and heifers, suggestions of appropriate systems based on amount of heat detection desired, custom activity calendars, suggestions for proper application and appropriate use situations, estimates of the cost of the program selected based on input costs entered, and support papers and graphics from experts.

UGA Controlled Breeding Calculator
admin.caes.uga.edu/team/beef/Controlled%20Breeding%20Calculator.htm

Gestation Calculator
www.angus.org/gestation/

University of Missouri Replacement Calculator
http://agebb.missouri.edu/download/
This spreadsheet calculates the number of pregnant replacements needed.

Herd Health Decision Tool

Texas Cooperative Extension Beef Herd Health Management Calendar
urbantaex.tamu.edu/D9/Brazoria/agriculture/documents/BeefHerdHealth.xls

Nutritional Management Decision Tools

OSU Cowculator
www.ansi.okstate.edu/software/
Oklahoma State University offers a Windows-based computer software program designed to assist cattlemen in making informed decisions associated with beef cow nutrition. Animal criteria (such as cow weight, body condition, stage of production and breed), as well as the feed and forage library, can be customized to each operation or to specific scenarios within an operation. Animal requirements and performance predictions are based on years of research data, including the 1996 and previous versions of the National Research Council's Nutrient Requirements of Beef Cattle.

Limit Feeding Light-Weight Cattle High Nutrient Density Diets
www.ansi.okstate.edu/software/

Programmed Feeding for Calves
www.ansi.okstate.edu/software/
This program is designed to calculate how much feed needs to be fed in a limit-feeding program.

University of Missouri Extension By-Product Feed Page
agebb.missouri.edu/dairy/byprod/
This website is an excellent resource for obtaining current by-product feed price and source information.

Mineral Cost Calculator
agebb.missouri.edu/download/
This Excel-based mineral calculation program determines the cost of minerals fed to livestock.

Genetic Selection Decision Tools

Cross Breeding Simulation
www.ansi.okstate.edu/software/
From data entered by the user, this program generates profit or loss by industry segment for purebreds, two-breed terminal, three-breed terminal, three-breed rotational and three-breed special cross.

Inbreeding Calculator
www.ansi.okstate.edu/software/
This program calculates the inbreeding of all individuals in a given pedigree that may be stored as a data file or entered directly into the portion of the program that calculates inbreeding.

Beef Cattle Decision Support Website
ert.agsci.colostate.edu/
This website shows the effects of mating various bulls to your herd.

Breed Association Selection Tools
Many of the major beef cattle breed associations in the U.S. offer searchable animal databases based on EPD ranges or other selection criteria that the user customizes based on their needs. Breed associations also provide useful Internet-based programs such as the American-International Charolais Association Terminal Sire Profitability Index (*www.charolaisusa.com)* that utilizes economic and management descriptions of a ranching operation, along with EPDs on available bulls to assist in identifying the most profitable sires for each unique operation. Another example of a breed association sponsored educational program dealing with genetic selection is the Hereford 101 webcast using the *LiveAuctions.tv* website on May 18, 2006 at 7 p.m. CDT that will cover the changes being implemented in the next genetic analysis and their impact on resulting EPDs. A third illustration of an online breed association selection tool is the Angus Optimal Milk Module at *www.angus.org/tools/optmilk/*. This educational module for commercial producers allows users to input their current average cow weight and cow herd milking level, as well as their annual estimated pasture and feed cost, to arrive at a milk EPD range matched to their needs

A Word of Caution

Many of the programs listed above come with downloadable instructions and other documentation. While many of these computer programs are very straightforward, it is important to understand that computer generated answers may not always provide all of the information needed in making production and marketing decisions for the beef operation. For example, computerized ration balancing programs do not account for many feeding limitations and can produce results that look good on paper but produce unacceptable performance results or can even put cattle health at risk. Extension personnel can assist with questions regarding effective use of these computerized decision making tools in a beef cattle operation.

Self-Study Master Cattle Producer Program

The Master Cattle Producer training program will soon be offered as a self-study course on DVD. Look for more information on the DVD version of the course in the near future by visiting the Master Cattle Producer website at *msucares.com/livestock/beef/mcp/.* Contact your county Extension office for complete program and registration information or for more information on computerized beef cattle management decision aids.