



Agricultural Research Division
University of Nebraska Extension
Institute of Agriculture and Natural Resources
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Beef Cattle Reports and Summaries

MP93 — 2010 Beef Cattle Report

G425 — 2010 Beef Report Summaries

MP92 — 2009 Beef Cattle Report

G425 — 2009 Beef Report Summaries

MP91 — 2008 Beef Cattle Report

G425 — 2008 Beef Report Summaries

MP90 — 2007 Beef Cattle Report

G425 — 2007 Beef Report Summaries

MP88 — 2006 Beef Cattle Report

G425 — 2006 Beef Report Summaries

MP83 — 2005 Beef Cattle Report

G425 — 2005 Beef Report Summaries

MP0480 — 2004 Beef Cattle Report

G425 — 2004 Beef Report Summaries

MP0380 — 2003 Beef Cattle Report

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MP79 — 2002 Beef Cattle Report

G425 — 2002 Beef Report Summaries

MP76 — 2001 Beef Cattle Report

G425 — 2001 Beef Report Summaries

MP73 — 2000 Beef Cattle Report

MP71 — 1999 Beef Cattle Report

MP69 — 1998 Beef Cattle Report

MP67 — 1997 Beef Cattle Report

MP66 — 1996 Beef Cattle Report

Cow/Calf

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Beef Products

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Statistics Used in the 2010 Nebraska Beef Report and Their Purpose

Cow/Calf

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Growing

Replacing Fertilizer Nitrogen with Dried Distillers Grains Supplement to Yearling Steers Grazing Bromegrass Pastures: Daily Gain and Nitrogen Use Efficiency
Replacing Fertilizer Nitrogen with Dried Distillers Grains Supplement to Yearling Steers Grazing Bromegrass Pastures: Economics and Models
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Beef Feedlot

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Effects of Feeding Wet Distillers Grains Plus Solubles on Feedlot Manure Value
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Composting or Stockpiling Feedlot Manure: Nutrient Concentration and Recovery
Impact of a New Direct-Fed Microbial on Intake and Ruminant pH
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Beef Products

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Modified Wet Distillers Grains Finishing Diets May Increase the Levels of Polyunsaturated and Trans Fatty Acids of Beef
A Rapid Method to Evaluate Oxidation Capacity of Fresh Beef

Statistics Used in the 2009 Nebraska Beef Report and Their Purpose

Cow/Calf

Effect of Pre-breeding Weight and MGA Supplementation on Heifer Performance
Effect of Wintering System and Nutrition Around Breeding on Gain and Reproduction in Heifers
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Comparison of Crude Protein and Digestibility of Diets of Grazing Cattle at Different Sandhills Range Sites
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Growing

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Forage Quality and Grazing Performance of Beef Cattle Grazing Brown Mid-rib Grain Sorghum Residue

Beef Feedlot

Meta-Analysis of UNL Feedlot Trials Replacing Corn with WCGF
Meta-Analysis of UNL Feedlot Trials Replacing Corn with WDGS
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Effect of Corn Processing and Wet Distillers Grains on Nutrient Metabolism
Effect of Distillers Grains Fat Level on Digestibility
Cattle CODE: An Economic Model for Determining Byproduct Returns for Feedlot Cattle
Economics of Modified Wet Distillers Grains Plus Solubles Use in Feedlots
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Effect of Backgrounding Gain, Grazing Length and Dry Distillers Grain Consumption on Performance and Carcass Traits of June Born Cattle
Price Discovery in North and West Central Nebraska Livestock Auction Markets
The Cattle Price Cycle: Revisited Again
Effect of Excede[®] Administered to Calves at Arrival in the Feedlot on Performance and Respiratory Disease
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Beef Products

Mapping Tenderness of the *Serratus Ventralis*
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Analysis of Veal Shoulder Muscles for Chemical Attributes
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Characteristics of Beef Finished on Wet Distillers Grains with Varying Types and Levels of Roughage
Influence of Feeding Wet Distillers Grains on Fatty Acid Composition of Beef
Wet Distillers Grains Plus Solubles Affect Lipid Oxidation and Objective Color of Beef Steaks
Effects of Wet Distillers Grains Finishing Diets on Fat Content and Marbling Score in Steers

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Sampling Wet Distillers Grains Plus Solubles to Determine Nutrient Variability
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Microbial Characteristics, Microbial Nitrogen Flow, and Urinary Purine Derivative Excretion in Steers Fed at Two Levels of Feed Intake
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Statistics Used in the Nebraska Beef Report and Their Purpose

Cow/Calf

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Growing

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Replacement of Forage with Dried Distillers Grains Reduces Ruminant Methane Production
Dried Distillers Grains as Creep Feed for Yearling Beef Cattle Grazing Sandhill Range

Beef Feedlot

Effect of Feeding a By-product Combination at Two Levels or By-product Alone in Feedlot Diets
Effects of Different Inclusion Levels of Wet Distiller Grains in Feedlot Diets Containing Wet Corn Gluten Feed
Effects of Roughage Source and Level with the Inclusion of Wet Distillers Grains on Finishing Cattle Performance and Economics
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Pen Density and Straw Bedding During Feedlot Finishing
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Feedlot Surface Conditions and Ammonia Emissions
Effect of Phase Feeding Protein on Cattle Performance and Nitrogen Mass Balance in Open Feedlots
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Evaluation of Synovex Choice Versus Revalor Implant Strategies in Beef Finishing Steers
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Effect of CRINA RUMINANTS AF, a Mixture of Essential Oil Compounds, on Ruminant Fermentation and Digestibility
Feeding Potassium Bicarbonate and Sodium Chloride in Finishing Diets
Effect of Feeding DAS-59122-7 Corn Grain and Non-transgenic Corn Grain to Finishing Feedlot Steers

Beef Products

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Off-Flavor Mitigation in Cow Steaks
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Enhancement of Beef Chuck and Round Muscles with Ammonium Hydroxide
Effects of Aging on Beef Chuck and Round Muscles Enhanced with Ammonium Hydroxide and Salt
Ranking Beef Muscles for Warner-Bratzler Shear Force and Trained Sensory Panel Ratings

New Technology

Hyperspectral Imaging: A Non-Invasive Technique to Predict Beef Tenderness
Evaluating Use of Urinary Purine Derivative to Creatinine Ratio as an Estimate of Microbial Protein Production in Steers
Diurnal and Dietary Impacts on Purine Derivative Excretion from Spot Samples of
Chronic Exposure of Ruminant Fluid Cultures to Treatments That Inhibit Methanogenesis
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Using a Modified *In Vitro* Procedure to Measure Corn Bran Buoyancy
Vascular Endothelial Growth Factor Inhibitory Isoform Is Regulated Prior to Ovulation
Inhibition of Vascular Endothelial Growth Factor Manipulates Follicles in Beef Females

Statistics Used in the Nebraska Beef Report and Their Purpose

Cow/Calf

Effects of Supplementing Beef Cows with Lipid from Whole Corn Germ
Effects of Supplementing Lactating, June-calving Cows on Second-calf Pregnancy Rates
Effects of Pre- and Postpartum Nutrition on Reproduction in Spring Calving Cows and Calf Feedlot Performance
Effects of Dam Nutrition on Growth and Reproductive Performance of Heifer Calves
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Bull Exposure, When Combined with a Seven Day MGA Synchronization, Does Not Enhance Rates in Cows
Vascular Endothelial Growth Factor mRNA Isoforms 120 and 164 Are Differentially Regulated Prior to Ovulation

Growing

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Effects of Supplementing Dried Distillers Grains to Steers Grazing Summer Sandhill Range
Influence of Dried Distillers Grains Supplementation Frequency on Forage Digestibility and Growth Performance
Dried Distillers Grains Supplementation of Calves Grazing Corn Residue

Beef Feedlot (Finishing)

Effect of Corn Hybrid and Processing Method on Site and Extent of Nutrient Digestibility Using the Mobile Bag Technique
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Influence of Corn Hybrid, Kernel Traits, and Dry Rolling or Steam Flaking on Digestibility
Effect of Corn Processing in Finishing Diets Containing Wet Distillers Grains on Feedlot Performance and Carcass Characteristics of Finishing Steers
Effect of Dietary Inclusion of Wet Distillers Grains on Feedlot Performance of Finishing Cattle and Energy Value Relative to Corn
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Evaluation of a Low Protein Distillers By-product for Finishing Cattle
Effect of Min-AD Ruminal Buffer and Roughage Level on Ruminal Metabolism and Extent of Digestion in Steers
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Effects of Field Pea Level and Processing in Finishing Diets
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Large-scale Clinical Trial to Evaluate an Experimental *Escherichia coli* Vaccine
Effect of Optaflexx Dosage and Duration of Feeding Prior to Slaughter on Feed Conversion and Carcass Characteristics
Effects of Optaflexx Fed in Combination with MGA on Feedlot Heifer Performance
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Inhibition of Methanogenesis in Rumen Fluid Cultures
Livestock Risk Protection Insurance Vs. Futures Hedging: Basis Risk Implications
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Nitrogen Mass Balance and Cattle Performance of Steers Fed Clinoptilolite Zeolite Clay
Factors Affecting Nitrogen Losses as Measured Using Forced-air Wind Tunnels and Nitrogen Mass Balance
Managing Phosphorus in Beef Feedlot Operations
Economics of Manure Phosphorus Distribution from Beef Feeding Operations
Valuing Feedyard Management Education, Experience, and Expertise

Beef Products

Alternative Enhancement Strategies for Beef Muscles
Flavor Relationships among Muscles of the Beef Chuck and Round
The Influence of Cooking Rate and Holding Time on Beef Flavor
Wet Distillers Grains plus Solubles Do Not Increase Liver-like Off-flavors in Cooked Beef

Statistics Used in the Nebraska Beef Report and Their Purpose

Cow/Calf

Comparison of Two Development Systems for March-born Replacement Beef Heifers
Effects of Supplemental Protein During Gestation and Grazing Sub-irrigated Meadow During the Postpartum Interval on Pregnancy Rates of Spring Calving Cows and Calf Growth
The Effects of Temperature and Temperature-Humidity Index on Pregnancy Rate in Beef Cows
Effects of Dried Distillers Grains Supplementation Frequency on Heifer Growth
Reproductive Response in Heifers Fed Soybeans During Post Weaning Development

Grazing

The Effects of Dried Distillers Grains on Heifers Consuming Low or High Quality Forage
Tree Growth and Cattle Weight Gain in a Ponderosa Pine System
Determination of Undegradable Intake Protein Digestibility in Forages

Finishing

Effects of Corn Moisture and Degradable Intake Protein Concentration on Finishing Cattle Performance
Effects of Corn Moisture and Length of Ensiling on Dry Matter Digestibility and Rumen Degradable Protein
Influence of Corn Kernel Traits on Digestibility and Ruminal Fermentation
Effect of Different Corn Processing Methods and Roughage Levels in Feedlot Diets Containing Wet Corn Gluten Feed
Effect of Corn Bran and Corn Steep Inclusion in Finishing Diets on Diet Digestibility and Fiber Disappearance
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Effect of Feeding a By-product Combination Consisting of Wet Distillers Grains and Wet Corn Gluten Feed to Feedlot Cattle
Ethanol Distiller By-product Phosphorus Concentration as Influenced by Corn Hybrid
Effects of Field Peas in Beef Finishing Diets
Effects of Dietary Phosphorus Level in Beef Finishing Diets on Phosphorus Excretion Characteristics
Effects of Corn Bran and Corn Steep Inclusion in Finishing Diets on Cattle Performance and Nitrogen Mass Balance
Composting of Feedlot Manure: Compost Characteristics, Crop Yields and Application Rates
Vaccination for *Escherichia coli* O157:H7 in Market Ready Feedlot Cattle
Direct-fed Microbial Products for *Escherichia coli* O157:H7 in Market Ready Feedlot Cattle
Performance and Economics of Sorting Yearling Steers by Feedlot Initial Body Weight
Performance and Economics of Yearlings Developed with Intensive Winter Management, and Partial Season Grazing
Effect of High Roughage and High Energy Diets on Body Temperature
Effect of Clinoptilolite Zeolite on Cattle Performance and Nitrogen Volatilization Loss
Evaluation of Initial Implants for Finishing Steers

Beef Products

Effect of Injecting Modified Connective Tissue Solutions on Quality of Beef Roasts
Packaging Effects on Shelf-Life and Sensory Traits of Enhanced Beef
Benchmarking the Differences Between Cow and Beef Muscles
Pre-rigor Water Injection and Post-rigor Sodium Citrate Treatment on Beef Tenderness
Evaluation and Composition of Beef Semitendinosus Utilizing a Novel Cooking System
The Effects of Phosphate Type and Potassium Lactate Level on Quality Characteristics of Enhanced Beef Steaks

Cow-Calf

An Evaluation of Economic Efficiencies of Two Beef Systems from Calving to Harvest
A System for Wintering Spring-calving Bred Heifers Without Feeding Hay
Effect of Gestation and Supplementation on Intake of Low-quality Forage

Grazing

A Review of Corn Stalk Grazing on Animal Performance and Crop Yield
Feed Values for Annual Forages in Western Nebraska
Urea Inclusion in Forage Based Diets Containing Dried Distillers Grains
Effect of Distillers Grains or Corn Supplementation Frequency on Forage Intake and Digestibility
Dried Distillers Grains as a Grazed Forage Supplement

Finishing

Effects of Corn Bran and Degradable Protein Source on Microbial Protein Estimated from Spot Urine Samples in Heifers
Effects of Corn Bran and Degradable Protein Source on Finishing Heifer Performance and Estimates of Microbial Protein Supply in High Moisture Corn Finishing Diets
Influence of Implant Regimen on Performance and Carcass Characteristics in Feedlot Steers
Delayed Implanting Improves Quality Grade in Steer Calves
Basis Variability on the Feeder Cattle Contract Versus the Failed Stocker Contract
Effect of Wet and Dry Distillers Grains Plus Solubles and Supplemental Fat Level on Performance of Yearling Finishing Cattle
Phosphorus Requirement for Finishing Heifers
Sodium Chloride Levels for Finishing Feedlot Heifers
The Influence of Corn Kernel Traits on Feedlot Cattle Performance
Evaluation of Initial Implants for Finishing Heifers
Wet Corn Gluten Feed and Alfalfa Hay Levels in Dry-rolled Corn Finishing Diets
Prediction of Net Energy Adjuster for Feedlot Cattle When Using the 1996 Beef Cattle NRC Model
Vaccination and Direct Fed Microbials as Intervention Strategies for Reduction of *E. coli* 0157:H7 in Feedlot Steers
Reducing Diet Digestibility and Increasing Pen Cleaning Frequency: Effects on Nitrogen Losses and Compost Nitrogen Recovery
Impact of Cleaning Frequency on Nitrogen Balance in Open Feedlot Pens
Hydrogen Sulfide Concentration in Vicinity of Beef Cattle Feedlots
Crop Performance and Soil Properties of Sites Previously Used for Production of Beef Cattle Manure Compost

Beef Products

Consumer Preference and Value of Beef with Country-Of-Origin Labeling
Consumer Acceptance and Value of Beef From Various Countries of Origin
Consumer Acceptance and Value of Wet Aged and Dry Aged Beef Steaks
Cow Muscle Profiling: A Comparison of Chemical and Physical Properties of 21 Muscles from Beef and Dairy Cow Carcasses
Carcass Traits and Palatability Attributes of Herdmates Finished as Calves or Yearling Steers

New Technology

Effect of Conjugated Linoleic Acid on Cell Death in Adipose Tissue
Conjugated Linoleic Acid Metabolism and Body Fat Loss in Mice
Effect of Age, Pregnancy, and Diet on Urinary Creatinine Excretion in Heifers and Cows

Cow/Calf

Evaluation of Cow and Calf Performance and Profit Potential in Beef Systems
Comparison of Two Heifer Development Systems on a Commercial Nebraska Ranch
Value of Dry Distillers Grains in High-Forage Diets and Effect of Supplementation Frequency
Microbial Protein Production in Gestating Cows Supplemented with Different Sources of Rumen Degradable Protein
 Grazing Dormant Range
Microbial Protein Synthesis and Efficiency in Nursing Calves
Growing Amino Acid Supplementation to Growing Heifers Fed Soypass®
Utilization of Genetically Enhanced Corn Residue on Grazing Steer Performance
Effects of Grazing Corn Stalks in the Spring on Subsequent Crop Yields

Finishing

Intervention Strategies for Reduction of *E. coli* O157:H7 in Feedlot Steers
Wet Corn Gluten Feed Levels for Steam-flaked Corn Based Finishing Diets
Effects of Corn Processing Method and Crude Protein Level with the Inclusion of Wet Corn Gluten Feed on Finishing Steer Performance
Corn Steep and Bran:Germ Meal Ratio in Steam-flaked Corn Based Finishing Diets
Feeding Transgenic (*Bt* Corn Rootworm Protected and Roundup-Ready®) Corn to Feedlot Cattle
Effects of Starch Endosperm Type and Corn Processing Method on Feedlot Performance, Nutrient Digestibility and Ruminant Fermentation of High-Grain Diets
Evaluation of Buffering Agents in Feedlot Diets for Cattle
Feeding Kelp Meal in Feedlot Diets
Summer vs. Winter Growth Promotant Strategies for Intact Yearling Heifers
Body Temperature Changes Associated with Moving Feedlot Cattle
Adjustments for Wind Speed and Solar Radiation to the Temperature-Humidity Index
Impact of Manure Application on Phosphorus in Surface Runoff and Soil Erosion
Effect of Organic Matter Addition to the Pen Surface on Feedlot Nitrogen Balance
Carbon Sequestration Following Beef Cattle Feedlot Manure, Compost, and Fertilizer Applications
Relationships of Chute-Side Measurements to Carcass Measurements
Sorting Strategies for Yearlings

Beef Products

Carcass and Palatability Characteristics of Calf-fed and Yearling Finished Steers
Cow Muscle Profiling: Processing Traits of 21 Muscles from Beef and Dairy Cow Carcasses
Quality Traits of Grain- and Grass-Fed Beef: A Review
The Effects of Tumbler Volume on Roasted Beef Quality
Ingredient Opportunities for Case-Ready Beef

New Techniques and Technology

Estimation of Rumen Undegradable Protein in Forages by Using Neutral Detergent Insoluble Nitrogen at a Single In Situ Incubation Time Point
Estimating Rumen Undegradable Protein in Smooth Bromegrass and Legumes
Influence of Rinsing Technique and Sample Size on In situ Protein Degradation

Cow/Calf

Weaning Date for Spring Calving Cows Grazing Sandhills Range
Replacement Heifer Development for Spring and Summer Calving Herds
Urinary Allantoin as an Estimate of Microbial Protein Synthesis
Metabolizable Protein Requirements of Lactating Two-Year-Old Cows
Use of Sexed (Female) Sperm is Successful in Yearling Heifers
Estrous Synchronization Programs for Lactating Cows

Growing

Windrow Grazing and Baled-Hay Feeding Strategies for Wintering Calves
Forage Quality and Animal Performance of Steers Grazing Smooth Bromegrass/Legume Pastures
Supplementing Yearling Summer-Grazing Cattle with Fat and Protein and Subsequent Feedlot Performance
Subsequent Summer Forage Intake Following Winter Gain Restriction

Finishing

Longitudinal Patterns of Fecal Shedding of *Escherichia coli* O157:H7 by Feedlot Cattle
Implant Programs for Feedlot Heifers Using Synovex® PlusTM, Revalor®-H, or Finaplix®-H with MGA
Summary of Implant Programs for Feedlot Heifers Using Synovex® PlusTM or Finaplix®-H with MGA
Sorting Strategies in an Extensive Forage Utilization Beef Production System
S Simulated Economic Analysis of Altering Days on Feed and Marketing Cattle on Specific Value-Based Pricing Grids
Economic Analysis of Calf Versus Yearling Finishing
Phosphorus Requirement of Finishing Feedlot Calves
Liming Effects of Beef Cattle Feedlot Manure and Composted Manure
Effect of Sawdust or Acid Application to Pen Surfaces on Nitrogen Losses from Open-Dirt Feedlots
Corn Bran Level in Finishing Diets and N Losses from Open-Dirt Pens
Effect of Sprinkling on Heat Stressed Heifers
Effect of Altered Feeding and Sprinkling on Performance and Body Temperature of Steers Finished in the Summer
Effect of Fiber Level in Finishing Diets on Diet Digestibility and Corn Silage Impact on Bacterial Crude Protein Production
Crude Protein and Wet Corn Gluten Feed Levels for Steam Flaked Corn Finishing Diets
Type of Corn Bran and Corn Processing Method in Beef Finishing Diets
Effects of Rumensin Level During an Acidosis Challenge

Beef Products

The Effects of Marination and Cook Cycles on High and Low pH Beef Muscles
Factors Influencing Color Development in Beef
Using Lean Color and Marbling Score to Sort Beef Carcasses into Tenderness Groups
Use of Sodium Citrate to Enhance Tenderness and Palatability of Pre-rigor Beef Muscles
Oral Dosage from NutroCALTM (Calcium Propionate) to Enhance Beef Tenderness
Effect of Conjugated Linoleic Acid on Insulin Sensitivity
Influence on Body Fat of Linoleic Acid Isomers
Evaluation of Calcium Propionate as a Nutrient to Prevent Dark Cutting Beef

Cow/Calf

A Comparison of Beef Cattle Crossbreeding Systems Assuming Value-Based Marketing
June Versus March Calving for the Nebraska Sandhills: Production Traits
June versus March Calving for the Nebraska Sandhills: Economic Comparisons
June Versus March Calving for the Nebraska Sandhills: Economic Risk Analysis
Protein Supplements and Performance of Cows and Calves in June-Calving Production Systems
Performance and Economics of Winter Supplementing Pregnant Heifers Based on the Metabolizable Protein System
Forage Intake and Nutrient Balance of Heifers Grazing Sandhills Winter Range
Summer Grazing and Fall Grazing Pressure Effects on Protein Content and Digestibility of Fall Range Diets
Annual Forage Production and Quality Trials

Growing

Compensatory Growth and Slaughter Breakevens of Yearling Cattle
Undegradable Intake Protein Supplementation of Compensating, Grazing Steers
Undegradable Intake Protein Content of Corn Steep Compared to Soybean Meal
Utilization of Bt Corn Hybrids in Growing Beef Steers
Wet Corn Gluten Feed Supplementation of Calves Grazing Corn Residue
Impact of Grazing Corn Stalks in the Spring on Crop Yields

Finishing

Economic Returns of Wet Byproducts as Cattle Feed
Urinary Allantoin Excretion of Finishing Steers: Effects of Grain Adaptation and Wet Milling Byproduct Feeding
Programmed Gain Finishing Systems In Yearling Steers Fed Dry-rolled Corn Or Wet Corn Gluten Feed Finishing Diets
Economic Evaluation of Corn Processing for Finishing Cattle
Effect of Corn Processing on Degradable Intake Protein Requirement of Finishing Cattle
High Moisture and Dry-Rolled High-Oil Corn for Finishing Feedlot Steers
Corn Processing Method in Finishing Diets Containing Wet Corn Gluten Feed
Implant Programs for Feedlot Heifers Using Synovex® Plus™
The Effect of Feeding Pressed Sugar Beet Pulp in Beef Cattle Feedlot Finishing Diets
Effects of Feeding Regimen on Performance, Behavior and Body Temperature of Feedlot Steers
Restricted Feeding Strategies for Reducing Heat Load of Yearling Steers
Managing Heat Stress in Feedlot Cattle Using Sprinklers
The Relationship of the Characteristics of Feedlot Pens to the Percentage of Cattle Shedding *Escherichia coli* O157:H7
 Within the Pen
A Diagnostic Strategy to Classify Pens of Feedlot Cattle by the Prevalence of *Escherichia coli* O157:H7 Fecal Shedding
Influence of Restricted Intake and Reduced Dietary Starch on Colonic pH and *E. coli* Prevalence
Phosphorus and Nitrogen-Based Beef Cattle Manure or Compost Application to Corn
Composting of Feedlot and Dairy Manure: Compost Characteristics and Impact on Crop Yields

Beef Products

Consumer Acceptance and Value of Strip Steaks Differing in Marbling and Country-of-Origin
Physical and Chemical Properties of 39 Muscles from the Beef Chuck and Round
Fiber Type Composition of the Beef Chuck and Round
The Effects of Post-Harvest Time and Temperature on Glycolytic Potential of Beef Muscle
The Role of Muscle Glycogen in Dark Cutting Beef

New Technology

Dietary Conjugated Linoleic Acids (CLA) and Body Fat Changes
Changes to the Purine Assay Improve Purine Recovery and Assay Precision
Urinary Allantoin Excretion as a Marker of Microbial Crude Protein Supply for Cattle
Evaluation of 1996 Beef Cattle NRC Model and Development of Net Energy Modifiers

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Cow/Calf

Age of Calf at Weaning of Spring-Calving Beef Cows and the Effect on Production Economics
Supplementing Metabolizable Protein to Yearling Heifers Grazing Winter Range
Refinement of the MGA/PGF Synchronization Program for Heifers Using a 19-Day PGF Injection
Replacement Heifer Development Programs
Copper Levels and Sources in Pre- and Post-calving Diets of First-Calf Cows

Growing

Effects of Length of Grain Feeding and Backgrounding Programs on Beef Carcass Characteristics
Compensatory Growth Response and Breakeven Economics of Yearling Steers on Grass
Evaluation of the 1996 Beef Cattle NRC Model Predictions of Intake and Gain for Calves Fed Low or Medium Energy Density Diets
Escape Protein Supplementation of Yearling Steers and Summer Born Calves on Native Sandhills Range
Metabolizable Protein Estimates of Treated Soybean Meal Products
Protein Evaluation of Porcine Meat and Bone Meal Products
Sugar Beet Pulp and Corn Silage for Growing Yearling Steers
Whole or Cracked Corn in Growing Rations or Steer Calves

Finishing

Influence of Diet on Total and Acid Resistant *E. coli* and Colonic pH
Effects of Programmed Gain Feeding Strategies on Performance and Carcass Characteristics of Yearling Steers
Sorting or Topping-off Pens of Feedlot Cattle
Growth Implants for Heifers
Delayed Implant Strategies Using Synovex® Plus™ on Performance and Carcass Characteristics in Finishing Yearling Steers
Effect of *DiaFil* (Diatomaceous Earth) Fed With or Without Rumensin® and Tylan®, on Performance, Internal Parasite and Coccidiosis Control in Finishing Cattle
The Effect of V-Max® on Performance and Carcass Characteristics of Finishing Cattle Fed Corn and Corn By-product Finishing Diets
Effects of Increasing Rumensin Level During a Potential Acidosis Challenge
Solvent-extracted Germ Meal as a Component of Wet Corn Gluten Feed: Effect on Ruminant Acidosis
Effect of Dry, Wet, or Rehydrated Corn Bran on Performance of Finishing Yearling Steers
Phase-feeding Metabolizable Protein for Finishing Steers
Dietary Phosphorus Effects on Waste Management and Nutrient Balance in the Feedlot
Effect of Increasing Dietary Corn Silage on Performance, Digestibility and Nitrogen Mass Balance in the Feedlot
Feed Program Impact on Land Requirements for Managing Manure Nutrients from a Feedlot
Exporting Feedlot Manure to Off-farm Users
Cleaning Coliform Bacteria from Feedlot Water Tanks

Beef Products

Adding Value to Low-quality Beef Muscles Through Glycolytic Inhibition in Pre-rigor Muscle
The Effects of Induced Stress and Supplemental Chromium on Meat Quality of Finishing Heifers

Acknowledgments

Cow/Calf

- Effects of Time of Weaning on Cow and Calf Performance
- Summer Grazing Date and Fall Grazing Intensity Effects on Protein Content and Digestibility of Fall Diets in the Nebraska Sandhills
- Climate Affects Calf Birth Weights and Calving Difficulty
- Trace Mineral Supplementation and Ovarian and Luteal Function in Pubertal Heifers
- Progesterone Metabolism by the Liver and Brain During the Estrous Cycle of Heifers

Growing

- Cysteine from Feather Meal and Sulfur Amino Acid Requirements for Growing Steers
- Hog Hair Meal as a Protein Source for Ruminants
- Pork Meat and Bone Meal Value Relative to Soybean Meal for Growing Calves
- Steer Performance within Summer Grazing Systems
- Calf Performance Grazing Crop Residues in Combination with Rye in Fall and Winter

Finishing

- Predicting Amount of Compensatory Gain
- Corn Bran, Solvent-Extracted Germ Meal, and Steep Liquor Blends for Finishing Yearlings
- Corn and Sorghum Distiller Grains for Finishing Cattle
- Fat Addition and Restricted Feeding of Corn Gluten Feed Diets for Cattle Exposed to Environmental Stress
- Performance of Yearling Steers Fed Beet Pulp or Chicory Pulp Rations
- Crude Protein and Energy Combinations for Finishing Yearling Steers
- Effects of Rumensin Level and Bunk Management Strategy on Finishing Steers
- Dietary Management for Starting Finishing Yearling Steers on Feed
- Effects of Programmed Gain on Performance and Carcass Characteristics in Calves
- Evaluation of Revalor®-G as an Initial Implant for Yearling Steers
- Evaluation of Growth Promoting Systems for Heifer Calves Finished in the Feedlot
- Implant Strategies on Performance and Carcass Characteristics of Finishing Steers
- Feedlot Marketing/Sorting Systems to Reduce Carcass Discounts
- Effects of Matching Protein to Requirements on Performance and Waste Management in the Feedlot

New Methods and Technology

- N-alkane as an Internal Marker for Predicting Digestibility of Forages
- Protein Evaluation of Treated Soybean Meal Products
- Use of Neutral Detergent Insoluble Protein in Omasal Samples to Estimate Escape Protein

Beef Products

- Hormonal Influence on Fat Synthesis in Cattle
- Glycolytic Inhibition in Pre-rigor Muscle: An Alternative Method to Improve Beef Tenderness
- The Relationship of Beef Primal Cut Composition to Overall Carcass Composition
- Optimal Conditions of Cooler Aging for Beef

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Cow/Calf

Spring versus Summer Calving for the Nebraska Sandhills: Production Characteristics
Performance of Summer- and Spring-Born Calves Finished as Calves or Yearlings
Use of the NRC Model for Evaluating Nutrient Balances of Grazing Beef Cattle
Dried Poultry Waste as a Protein Supplement for Cows Grazing Winter Forages
Escape Protein Supplementation and Weaning Effects on Calves Grazing Meadow Regrowth
Calving Difficulty and Calf Response to Stress
Effect of Summer Grazing on Crude Protein and Digestibility of Winter Diets of Cattle in the Nebraska Sandhills
Ruminal Degradation of Rubisco by Beef Cattle Grazing Switchgrass and Big Bluestem
Evaluating Stress in Calves Weaned at Three Different Ages
Induction of Estrus in Anestrous Suckled Beef Cows
A Novel Estrous Synchronization Program for Beef Cattle Using Melengestrol Acetate
Effects of Luteinizing Hormone Releasing Hormone Antagonist On The Bovine Corpus Luteum
Regulation of LH Secretion by Progesterone in Heifers
Prolonged Elevated Concentrations of Estradiol Do Not Affect Conception Rates in Beef Cattle

Growing

Evaluation of Feather Meal for Calves Grazing Cornstalks
Feather Meal as a Source of Sulfur Amino Acids for Growing Steers
Cull Dry Edible Beans in Growing Calf Rations
Comparative Calf Grazing of Corn and Soybean Residues

Finishing

Solvent-Extracted Germ Meal for Receiving Calves
Solvent-Extracted Germ Meal, Corn Bran and Steep Liquor Blends for Finishing Steers
Lipid Sources in Finishing Diets for Yearling Steers
An Enzyme-Microbial Feed Product for Finishing Steers
Lime Filtrate as a Calcium Source for Finishing Cattle
Extended Grazing and Byproduct Diets in Beef Growing Finishing Systems
Effect of Winter Gain on Summer Rate of Gain and Finishing Performance of Yearling Steers
Summer and Fall Forage Grazing Combinations: Five-Year Summary
Metabolism and Digestibility of Corn Bran and Corn Steep Liquor/Distillers Solubles
Effects of Feed Intake Variation on Acidosis and Performance of Finishing Steers
Observations on Acidosis Through Continual Feed Intake and Ruminal pH Monitoring
Phosphorus Requirement of Finishing Yearlings
Use of the NRC Model for Predicting Nutrient Balances of Finishing Cattle
Evaluation of 1996 NRC for Protein and Phosphorus Requirements of Finishing Cattle
Nutrient Balance of Nitrogen, Organic Matter, Phosphorus and Sulfur in the Feedlot
Nutrient Balance on Nebraska Feedlots

New Methods and Technology

In Situ Method for Estimating Forage Protein Degradability

Beef Products

Tenderness and Retail Stability of Hydrodyne-Treated Beef
Dietary Calcium and Phosphorous: Relationship to Beef Tenderness and Carcass Maturity

Acknowledgments

Cow-Calf

Seasonal Changes in Protein Degradabilities of Sandhills Native Range and Subirrigated Meadow Diets and Application of a Metabolizable Protein System
First Limiting Nutrient of Native Range for Summer Calving Cows During the Breeding Season and Late Lactation
Rumen Degradable Protein Requirement of Gestating Summer Calving Beef Cows Grazing Dormant Native Sandhills Range
Supplemental Protein on Performance of Lactating Beef Heifers
Evaluation of Feather Meal for Cows Grazing Cornstalks
Effects of Supplementing High Levels of Cu, Co, Mn, and Zn after Calving on Productivity of Two-Year-Old Cows
Effects of Copper and Selenium Injections on Cow Productivity and Concentration of Copper in Liver Biopsy Samples
Effects of Sire EPD, Dam Traits and Calf Traits on Calving Difficulty and Subsequent Reproduction of Two-Yr-Old Heifers

Growing

Cornstalk Grazing in Protected and Unprotected Fields
Comparative Grazing of Corn and Soybean Residue
Grazing Corn Residues in Conventional and Ridge-Till Planting Systems
Continuous vs Rotational Stocking of Warm-season Grasses at Three Stocking Rates
Cover Crops in Crop/Livestock Production Systems
Effect of Crop Residue Grazing on Crop Production-Update of Research Activities

New Methods and Technology

Estimating In Situ Degradability of Protein in Forages
Ammonia (NPN) Utilization by *Prevotella ruminicola* is Affected by the Availability of Peptides
Mutants of *Prevotella ruminicola* Defective in Peptidase Activity Impact on Ammonia
Biochemical Characterization of a Peptidase Enzyme from the Ruminal Bacterium *Prevotella ruminicola*
Effect of Rumensin and Feed Intake Variation on Ruminal pH

Finishing

Evaluating Breakeven for Various Management Systems for Different Breed Types from Weaning to Slaughter
Forage Combinations for Summer and Fall Grazing
Synchronizing Micotil Treatment with Time of Sickness in Newly Received Calves
Digestibility of Dry-rolled Corn, Wet Corn Gluten Feed, and Alfalfa Hay in Receiving and Finishing Diets
Lysine Requirements for Feedlot Cattle
Effect of Dried Poultry Waste on Performance of Finishing Yearling Steers
Wet Corn Gluten Feed as a Source of Rumen Degradable Protein for Finishing Steers
Evaluation of Corn Bran and Corn Steep Liquor for Finishing Steers
A Bacterial Preservative for Ensiled High-Moisture Corn
A Low Roughage Diet Alternative for Finishing Cattle
Time of Feeding Influence on Cattle Exposed to Heat
Effects of Heat Exposure on Adapting Feedlot Cattle to Finishing Diets
Effects of Feeding Level and Diet Energy Density on Cattle Exposed to Heat
Composting of Feedlot Waste-Update of Research Activities

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Cow-Calf

Range or Meadow Regrowth Grazing and Weaning Effects on Two Year-Old Cows
Grazing: An Alternative to Haying Subirrigated Meadows in the Nebraska Sandhills
Multi-elemental Analysis of Sandhills Meadow Hay
Use of a Metabolizable Protein System to Predict Deficiencies in Diets of Cattle Grazing Sandhills Native Range and Subirrigated Meadow
Rumen Degradable Protein Requirements of Gestating Beef Cows Grazing Dormant Native Sandhills Range
Multi-elemental Analysis of Liver Biopsies and Serum to Determine Trace Element Status of Cows
Multi-elemental Analysis of Bovine Liver Biopsy and Whole Liver
The Incidence of Precocious Puberty in Developing Beef Heifers
Winter Temperatures May Affect Calf Birth Weights

Growing

Evaluation of Animal Byproducts for Escape Protein Supplementation
Treated Meat and Bone Meal and Rumen Protected Methionine and Tryptophan for Growing Calves
Dried Poultry Waste as a Nonprotein Nitrogen Source for Ruminants
Manipulation of Microbial Protein Degradation in the Rumen: Development of the “Smugglin Concept” to Control Protein Digestion
Characterization of Ammonia Utilization by *Prevotella ruminicola* B₄
Cellulose Adherence Factors in *Ruminococcus albus*
Effect of Sorghum and Cornstalk Grazing on Crop Production
Winter Calf Grazing and Field Windbreaks
Use of Cell Culture to Study Muscle Growth in Beef Cattle

Finishing

Grazing Systems Utilizing Forage Combinations
Beef Production Systems from Weaning to Slaughter in Western Nebraska
Feeding Value of Light-Test Weight Corn for Growing and Finishing Steers
Roughage Source and Particle Size in Finishing Diets
Effect of Energy Source and Escape Protein on Receiving and Finishing Performance and Health of Calves
Evaluation of Levels of Wet Corn Gluten Feed and Addition of Tallow
Evaluation of Wet Distillers Byproducts Composite for Finishing Ruminants
Digestibility of Wet and Dry Distillers Grains from the Fermentation of Corn or Sorghum
Use of Direct Fed Microbials to Alleviate Subacute Acidosis
An Enzyme-Microbial Feed Product for Finishing Steers
Effects of Bovatec, Rumensin or GrainPro Fed to Yearling Summer Grazing Steers
Growth Implants for Steers
Implant and Slaughter Time for Finishing Cattle
Evaluation of Nitrogen, Phosphorus, and Organic Matter Balance in the Feedlot as Affected by Nutrition
Compositing - A Feedlot Waste Management Alternative

Beef Products

Predicting Wholesale Value of Beef Carcasses
Connective Tissue/Acidic Phosphate Preblends in Low Fat, High Added-Water Frankfurters
Gelatinized High Added-Water Beef Connective Tissue Protein Gels as Potential Water Binders
Mechanically Recovered Neck Bone Lean Alters Textural and Sensory Properties of Ground Beef Patties