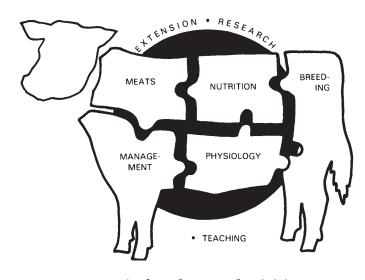
Know how. Know now.

MP93



Agricultural Research Division University of Nebraska Extension Institute of Agriculture and Natural Resources University of Nebraska–Lincoln

2010 Beef Cattle Report



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska–Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.

ACKNOWLEDGMENTS

Appreciation is expressed to the following firms, associations or agencies that provided grant support for research in the beef cattle program.

Archer Daniels Midland Co., Columbus, Neb.

Bioniche Life Services, Belleville, Ontario, Canada

Cargill Animal Nutrition, Elk River, Minn.

Cargill Corn Milling, Blair, Neb.

Chief Ethanol Fuels, Hastings, Neb.

Elanco Animal Health, Indianapolis, Ind.

Intervet, Millsboro, Del.

Lallemand Animal Nutrition, Milwaukee, Wis.

National Cattlemen's Beef Association, Centennial, Colo.

Nebraska Center for Energy Sciences Research, University of Nebraska, Lincoln, Neb.

Nebraska Cattlemen, Inc., Lincoln, Neb.

Nebraska Corn Board, Lincoln, Neb.

Nebraska Ethanol Board, Lincoln, Neb.

North Central Region Sustainable Agriculture Research & Education Program, USDA

Pfizer Animal Health, New York, N. Y.

Poet Nutrition, Sioux Falls, S. D.

Soypass Royalty Funds, University of Nebraska, Lincoln,

Neb.

The Beef Checkoff, Centennial, Colo.

University of Nebraska Program of Excellence Funding,

University of Nebraska, Lincoln, Neb.

University of Nebraska Foundation GARD Funds,

University of Nebraska, Lincoln, Neb.

USDA CSREES Grant # 2005-55101-16369, Managed

Ecosystems

USDA NRCS Conservation Innovation Grant

Vet Life, West Des Moines, Iowa

Appreciation also is expressed to the following firms that provided products or services.

American Angus Association, St. Joseph, Mo.

Archer Daniels Midland Co., Columbus, Neb.

Boehringer Ingelheim Vetmedica, St. Joseph, Mo.

Cargill Corn Milling, Blair, Neb.

Cargill Meat Solutions, Wichita, Kan./Schuyler, Neb./High

River, Alberta, Canada

Dixon County Feedyard, Allen, Neb.

Elanco Animal Health, Indianapolis, Ind. Fort Dodge Animal Health, Overland Park, Kan.

Greater Omaha Packing, Omaha, Neb.

Intervet, Millsboro, Del.

Iowa Limestone, Des Moines, Iowa

Liquid Feed Commodities, Fremont, Neb.

Mead Cattle Co., Mead, Neb.

Pfizer Animal Health, New York, N. Y.

Pharmacia Upjohn, Kalamazoo, Mich.

PharmAgra Labs, Inc., Brevard, N. C.

Rex Ranch, Ashby, Neb.

Tyson Foods, Inc., Lexington, Neb.

USDA Meat Grading and Certification Branch, Omaha, Neb.

Appreciation also is expressed to the following research technicians, unit managers, and crew involved in the research programs at our various locations.

Agricultural Research & Development Center, Ithaca

· ·		
Josh Benton	Bryan Machovec	Ken Rezac
Jeff Bergman	Dan Malousek	Mark Schroeder
Dave Cajka	Steve Maser	Matt Sullivan
Sarah Merssh	Allison Miller	Andrea Watson
Brian Lashley	Karl Moline	Doug Watson
Walker Luedtke	Chuck Rezac	Dan Wiley

Animal Science Department, Lincoln

Nerissa Ahren	Will Griffin	Lindsey Salestrom
Crystal Buckner	Tommi Jones	Calvin Schrock
Virgil Bremer	Nathan Meyer	Sarah Vanness
Deb Clopton	Clyde Naber	
Ruth Diedrichsen	Kelsey Rolfe	

Gudmundsen Sandhills Laboratory, Whitman

Andy Applegarth	Jackie Musgrave
Jay Holthus	John Nollette

C.R. Jewell

Panhandle Research & Extension Center, Scottsbluff

Northeast Research & Extension Center, Norfolk

Nabor Guzman	Doug Pieper
Paul McMillen	Stephanie Quinn

West Central Research & Extension Center, North Platte

Jim Teichert Kevin Heithold Lee Johnson Leslie Johnson Rex Davis T. L. Meyer

Dalbey Halleck Farm

Mark Dragastin

Electronic copies of Nebraska Beef Reports and Summaries available at: http://beef.unl.edu. Click on reports.

Table of Contents 2010 Nebraska Beef Cattle Report

Cow/Calf

Effect of Calving Season and Wintering System on Cow Performance	5
Extending Grazing in Heifer Development Systems Decreases Cost Without Compromising Production	8
Post Weaning Management of Heifer Calves Impacts ADG and Feed Efficiency as Pregnant Heifers	
Estrous Synchronization Increases Early Calving Frequency, Which Enhances Steer Progeny Value	
Reproductive Aging Influences Ovarian Function in Beef Cows	
Comparison of Feeding Wet Distillers Grains in a Bunk or on the Ground to Cattle Grazing Native Sandhills Winter Range	
Supplementing Wet Distillers Grains Mixed with Low Quality Forage to Grazing Cow/Calf Pairs	
Evaluation of Storage Covers When Wet Distillers Byproducts Are Mixed and Stored with Forages	
Genetic Analysis of Mature Size in American Angus Cattle	
Factors Associated with Feed Intake of Angus Steers	
Genetic and Phenotypic Parameter Estimates for Feed Intake and Other Traits in Growing Beef Cattle	
Growing	
Plant and Animal Responses to Grazing Systems in the Nebraska Sandhills	36
Supplementing Modified Wet Distillers Grains with Solubles to Long Yearling Steers Grazing Native Range	
Supplementing Dried Distillers Grains to Steers Grazing Cool Season Meadow	
Supplementing Dried Distillers Grains to Growing Calves on Smooth Bromegrass Pastures	
Forage Quality and Grazing Performance of Beef Cattle Grazing Brown Midrib Grain Sorghum Residue	
Comparing Ensiled or Fresh Mixed Wet Distillers Grains with Solubles with Straw at Two Inclusions in Growing Calf Diets	
Comparing the Energy Value of Wet Distillers Grains to Dry Rolled Corn in High Forage Diets	
Effects of Time of Transporting Prior to Sale Date on Selling Weight of Weaned Steer Calves	
Finishing	
Determinants of Profit Variability in Calf-Fed and Yearling Production Systems	52
Routine Hedging of Fed Cattle Sales Price for Calf-Fed and Yearling Production Systems	
Routine Hedging of Corn Price for Calf-Fed and Yearling Production Systems	
Distillers Grains and Livestock Are Important to Ethanol Energy and Greenhouse Gas Balance	62
The Economic Impact of Feeding Wet Corn Co-Products in Nebraska	64
Update: Meta-Analysis of UNL Feedlot Trials Replacing Corn With WDGS	67
Evaluation of Feedlot and Carcass Performance of Steers Fed Different Levels of E-Corn, a Potential New Feed	
Product from Ethanol Plants	69
Effects of Using Wet Distillers Grains with Solubles to Adapt Cattle to Finishing Diets on Feed Intake, Ruminal pH,	=-
and Ruminal Hydrogen Sulfide Concentration	
Relating Hydrogen Sulfide Levels to Polioencephalomalacia	
Feeding Fiber from Wet Corn Gluten Feed and Corn Silage in Feedlot Diets Containing Wet Distillers Grains Plus Solubles	
Fiber Digestibility and Rumen pH for Diets Containing Wet Corn Gluten Feed or Wet Distillers Grains with Solubles	
Metabolism Characteristics of Feedlot Diets Containing Different Fat Sources	
Lipid and NDF Analysis of Ethanol Byproduct Feedstuffs	
Evaluation of a New Single Implant Strategy vs. Two Common Implant Strategies in Beef Finishing Steers	
Comparison of Revalor-XS vs. Two Common Implant Strategies in Finishing Steers	
Comparison of Revalor XS to a Revalor IS and Revalor S Implant Strategy in Finishing Steers	
Vaccination to Reduce the Prevalence of <i>Escherichia Coli</i> O157:H7 in Feedlot Cattle Fed Wet Distillers Grains Plus Solubles	
Evaluation of ProTernative Stress Formula and ProTernative Continuous Fed Formula in a High Energy Feedlot Diet	
Tympanic Temperature of Steers Fed Different Levels of Metabolic Energy Intake During Summer and Winter	
Tympanic Temperature Profiles of Confined Beef Cattle	101
Relationship of Metabolizable Protein Balance, Purine Derivative Excretion, and 3-Methyl Histidine Excretion	
to Feed Efficiency in Individually Fed Finishing Heifers	104

Beef Products

Fatty Acid Profile of Beef from Steers Fed Wet Distillers Grains Plus Solubles (WDGS) and Vitamin E	106
Effects of Feeding Wet Distillers Grains Plus Solubles and Vitamin E on Beef Tenderness and Color Under	
Different Packaging Systems	108
Wet Distillers Grains Diets Supplemented with Vitamin E Affect Sensory Attributes of Beef m. longissimus lumborun	n 111
Wet Distillers Grains Diets Supplemented with Vitamin E Alter the Mineral Composition of Beef m. longissimums	
lumborum and m. psoas major	114
Sensory Attributes of Beef from Steers Fed Field Peas	117
Intramuscular Tenderness Mapping and Muscle Fiber Directions of Small Muscles in the Beef Round	119
Alternative Muscles for Traditional Japanese and Korean Beef Recipes	
Steak-Quality Meat from the Beef Heel	
Acid Marination for Tenderness Enhancement of the Beef Bottom Round	
Multiple Antimicrobial Interventions for the Control of Escherichia Coli O157:H7 in Very Small Beef Processing	
Facilities	131
	105
Statistics Used in the Nebraska Beef Report and Their Purpose	135