



Managing Risk on the Ranch

A Drought Planning Guide for Livestock and Forage Producers

*“Here’s what my dad used to tell me.
He said, if you bet on dry weather in
this country, you’ll be right more than
half the time”*

(Nebraska Rancher 2005)

Cody Knutson
National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

September 29, 2009

Ted Alexander

- Rancher in south-central Kansas
- Working with NRCS and university researchers to improve ranch management over the last 20 years
- Including development of long- and short term drought plans
- Long-term: make ranch resilient to drought (prescribed burning, rotational grazing, water distribution, stocker)
- Short-term: identifying critical condition, dates and actions



Kansas NRCS Featured Customers



Ted Alexander - Ranching with a Passion

"*Ancora Imparo*" (I am still learning) is the philosophy by which rancher Ted Alexander lives and works. He reminds his fellow ranchers and others that he doesn't have it all figured out, but he has the passion to push onward to improve.

[...More Info](#)

Ted Alexander Ranch Drought Plan (1999)

Average Annual Rainfall – 21 inches/yr

Critical Dates – April 1, June 15, August 15, and Nov. 1

April 1

- beginning of the grass growing season
- If less than 4” of moisture during winter season - limit prescribed burns

June 15

- Half of the forage has been produced
- 75% of the annual average rainfall has been received
- If rainfall is < 80% of the 75%, decrease stocking rate 30%
- If < 60% is received by July 15, decrease stocking rate 40-50%
- Graze/rest periods should be as long as possible by June 1 if drought is present

August 15

- Length of the grazing season (based on rainfall in July and August)
- If rainfall is < 70% of the 5” July-August average, grazing period ends Sept. 1

November 1

- End of the growing season
- Less than 80% of the 21” average indicates drought for the next growing season

Began hearing and reading that best management practices and holistic management made producers more resilient to drought

Needed more information....



Nebraska Holistic Management Study (2005)

- ▶ Mail survey and face-to-face interviews with members of the former Nebraska Holistic Management group
- ▶ Asked questions about:
 - the effects of recent drought from 2000-2004
 - strategies implemented to prepare for/respond to drought
 - drought-related needs and barriers to change
- ▶ Found wide variety of impacts and suggestions to better prepare for and respond to drought



Reported Effects of Drought from 2000 – 2005

- **Cattle culling and reduced stocking rates**
- **Reduced grass/hay production**
- Surface water/ground water quantity and quality problems
- Increased supplemental feed costs
- Crop losses
- Emotional stress
- Increased pests such as grasshoppers
- Wind erosion
- Increased irrigation
- Reduced cattle pregnancy rates
- Increased weed pressures
- Tree losses
- Hindered pasture burns
- Increased disease



What practices have you implemented to reduce the effects of drought?

Rank	Practices Implemented (N=79)	Respondents
1	Reduce cattle numbers (culling, early weaning, heifers, feedlots)	35
2	Grazing management (rotational and modified grazing, leasing)	30
3	Forage production and supplemental feed (interseeding, crop grazing, hay, distillers grain)	28
4	Developed new water sources - EQIP	15
5	Financial and management strategies (reduced inputs, record keeping, other income)	8
6	Prepared a drought plan	8

Some best management practices and others specifically for drought

What are the barriers that limit your ability to prepare for drought?

Rank	Possible Barriers	N	Mean
1	Lack of capital to modify operation	69	3.1
2	Market/need to maximize production	48	3.0
3	Landlord control over your operation	40	2.4
4	Lack of drought planning knowledge	60	2.3
5	Federal farm programs	51	2.3
6	Unreliability of weather data and forecasts	64	2.1
7	Feel that nothing can be done about drought	60	2.1
8	Bank control over your operation	47	2.1
9	Peer Pressure	40	1.6
10	Lack of access to weather/forecast sources	52	1.3

Rancher Thoughts on How to Overcome Barriers

Rank	Suggested Ideas from Interviews	N
1	Expanded or more effective assistance and insurance programs (more cost-share, allow grazing of CRP, reduced paperwork, more insurance products and proactive assistance, and tax breaks)	15
2	More education on sustainability and grazing management	8
3	Involve producers in planning/get people to plan on their own	6
4	Stop farm and ranch subsidies	5
5	More interstate and intra-university collaboration	2

Assistance – Education – Collaboration – Personal Responsibility



Managing Risk on the Ranch

A guide to help better prepare for and manage drought

Project initiated in 2006

Project Goals: Develop a model drought planning process and web-based educational delivery system for livestock and forage producers

Collaborators: National Drought Mitigation Center, University of Nebraska-Lincoln, South Dakota State University, and Texas A&M-Kingsville

Available for review in the Fall of 2009 and release to the general public in the Fall of 2010

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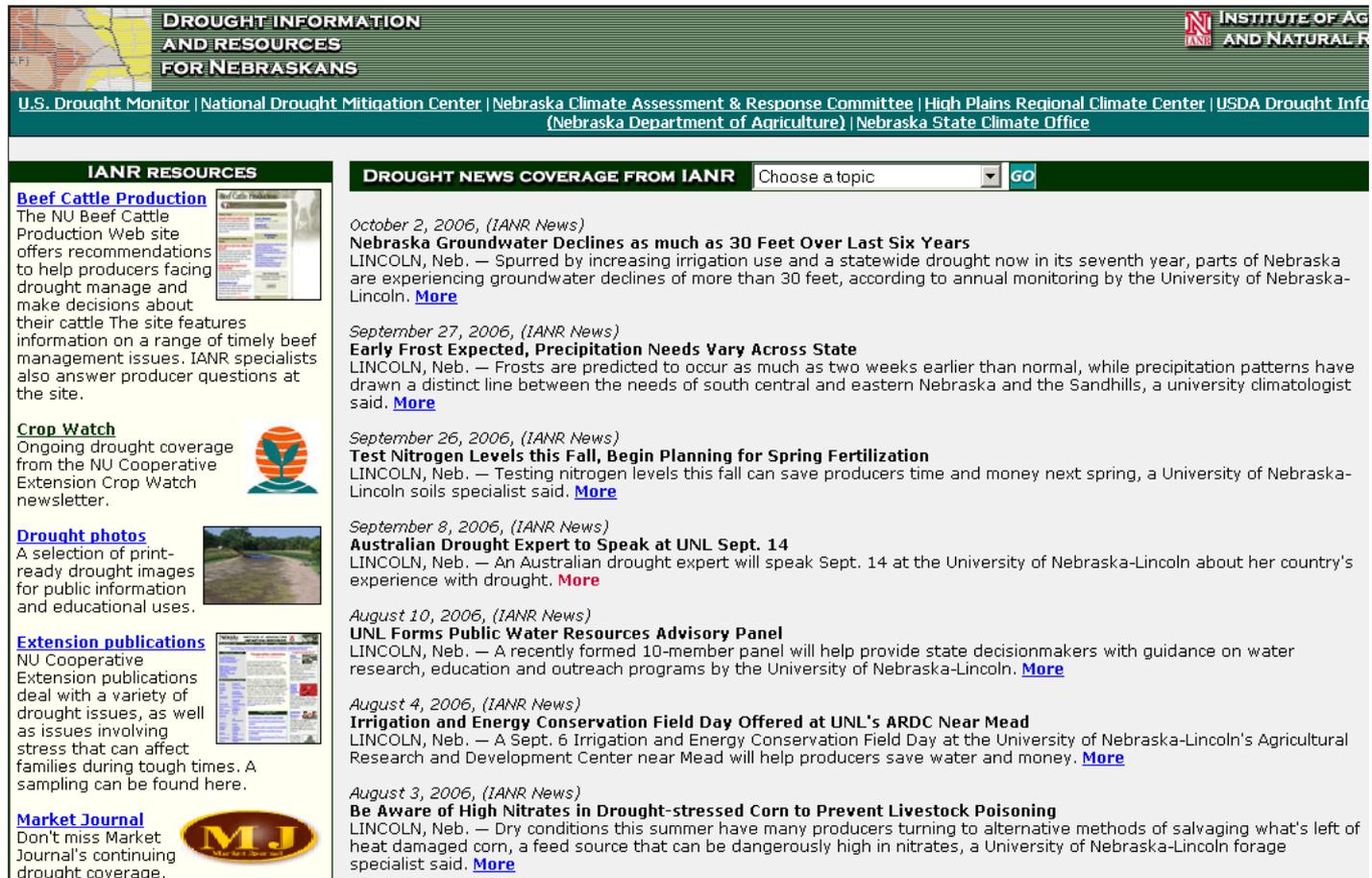
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Current “Buffet” Website Approach



DROUGHT INFORMATION AND RESOURCES FOR NEBRASKANS INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES

U.S. Drought Monitor | National Drought Mitigation Center | Nebraska Climate Assessment & Response Committee | High Plains Regional Climate Center | USDA Drought Info (Nebraska Department of Agriculture) | Nebraska State Climate Office

IANR RESOURCES

- Beef Cattle Production**
The NU Beef Cattle Production Web site offers recommendations to help producers facing drought manage and make decisions about their cattle. The site features information on a range of timely beef management issues. IANR specialists also answer producer questions at the site.
- Crop Watch**
Ongoing drought coverage from the NU Cooperative Extension Crop Watch newsletter.
- Drought photos**
A selection of print-ready drought images for public information and educational uses.
- Extension publications**
NU Cooperative Extension publications deal with a variety of drought issues, as well as issues involving stress that can affect families during tough times. A sampling can be found here.
- Market Journal**
Don't miss Market Journal's continuing drought coverage.

DROUGHT NEWS COVERAGE FROM IANR Choose a topic

- October 2, 2006, (IANR News)*
Nebraska Groundwater Declines as much as 30 Feet Over Last Six Years
LINCOLN, Neb. — Spurred by increasing irrigation use and a statewide drought now in its seventh year, parts of Nebraska are experiencing groundwater declines of more than 30 feet, according to annual monitoring by the University of Nebraska-Lincoln. [More](#)
- September 27, 2006, (IANR News)*
Early Frost Expected, Precipitation Needs Vary Across State
LINCOLN, Neb. — Frosts are predicted to occur as much as two weeks earlier than normal, while precipitation patterns have drawn a distinct line between the needs of south central and eastern Nebraska and the Sandhills, a university climatologist said. [More](#)
- September 26, 2006, (IANR News)*
Test Nitrogen Levels this Fall, Begin Planning for Spring Fertilization
LINCOLN, Neb. — Testing nitrogen levels this fall can save producers time and money next spring, a University of Nebraska-Lincoln soils specialist said. [More](#)
- September 8, 2006, (IANR News)*
Australian Drought Expert to Speak at UNL Sept. 14
LINCOLN, Neb. — An Australian drought expert will speak Sept. 14 at the University of Nebraska-Lincoln about her country's experience with drought. [More](#)
- August 10, 2006, (IANR News)*
UNL Forms Public Water Resources Advisory Panel
LINCOLN, Neb. — A recently formed 10-member panel will help provide state decisionmakers with guidance on water research, education and outreach programs by the University of Nebraska-Lincoln. [More](#)
- August 4, 2006, (IANR News)*
Irrigation and Energy Conservation Field Day Offered at UNL's ARDC Near Mead
LINCOLN, Neb. — A Sept. 6 Irrigation and Energy Conservation Field Day at the University of Nebraska-Lincoln's Agricultural Research and Development Center near Mead will help producers save water and money. [More](#)
- August 3, 2006, (IANR News)*
Be Aware of High Nitrates in Drought-stressed Corn to Prevent Livestock Poisoning
LINCOLN, Neb. — Dry conditions this summer have many producers turning to alternative methods of salvaging what's left of heat damaged corn, a feed source that can be dangerously high in nitrates, a University of Nebraska-Lincoln forage specialist said. [More](#)

Ranchers pick-and-choose from a list of information

Drought Management on Range and Pastureland: A Handbook for Nebraska and South Dakota

Pat Reece, Jack Alexander, and James Johnson (1991) Lincoln, NE: University of Nebraska-Lincoln Cooperative Extension Division

- I. Plant Responses to Drought
- II. Management Preparation For Drought
- III. Herd Management
- IV. Animal Responses to Drought
- V. Predicting Forage Production and Stocking Rates
- VI. Drought Management Plans
- VII. Rangeland Resource Inventory
- VIII. Grazing Management
- IX. Plant Recovery After Drought

10-Step Drought Planning Process

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Drought Preparedness Planning: Building Institutional Capacity

DONALD A. WILHITE, MICHAEL J. HAYES,
AND CODY L. KNUTSON

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Western
Drought
Coordination
Council

How to Reduce Drought Risk

Preparedness and Mitigation
Working Group

March 1998

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Tom Phillips,
U.S. Bureau of Reclamation

National Range and Pasture Handbook

Chapter 11 Conservation Planning on Grazing Lands

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Strategic and Scenario Planning in Ranching: Managing Risk in Dynamic Times

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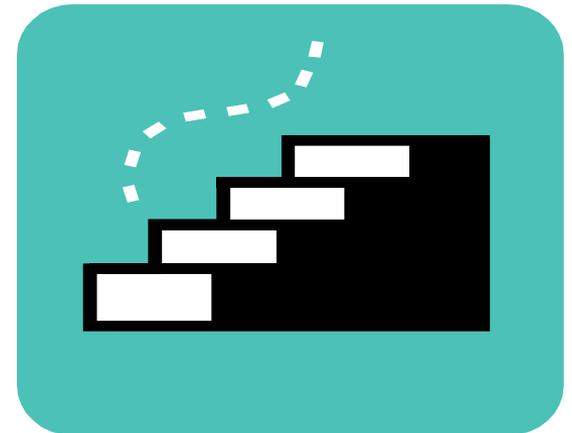
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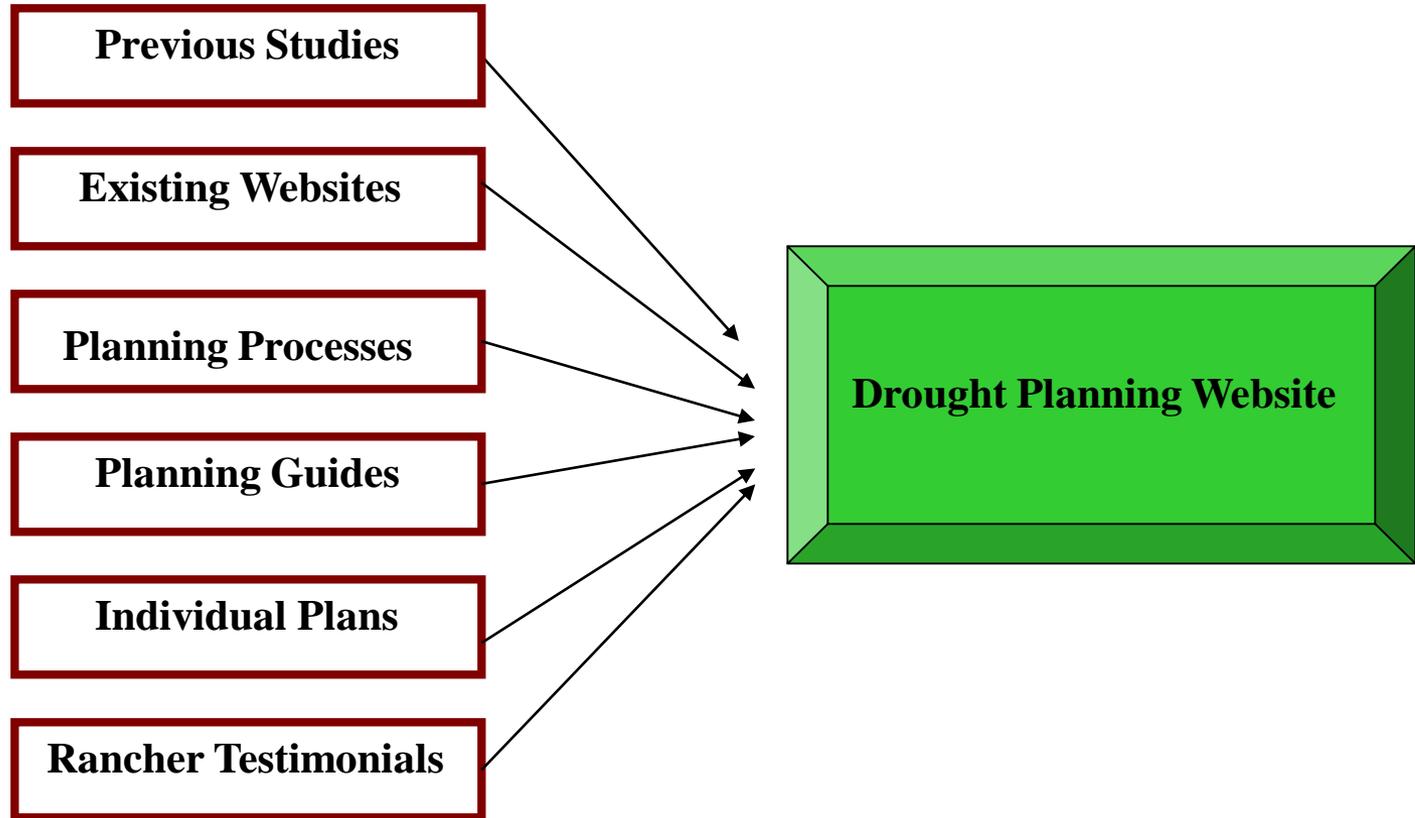
Rancher and Advisor Interviews (Summer 2009)

Drought planning steps:

- Identify objectives
- Inventory ranch and monitor conditions
- Identify long-term best management strategies
- Identify critical trigger dates
- Weigh options at critical dates
- Identify recovery options



Project Goal: Incorporate this type of information into a drought planning process and training website





Managing Risk on the Ranch

[Introduction](#)[Before a Drought](#)[During a Drought](#)[After a Drought](#)[Write a Drought Plan](#)[Contacts/Resources](#)

NDMC > Ranch Plan Home

"Here's what my dad used to tell me. He said, if you bet on dry weather in this country, you'll be right more than half the time"

--Nebraska rancher, 2006

Making management decisions is an every day exercise for livestock and forage producers. Producers manage for things they can control and things they can't; for conditions that persist and those that change daily. All regions are prone to some form of extreme weather events such as thunderstorms, blizzards and drought. These extremes and the unknowns that seem to be around every corner, and the disastrous effects they can cause, demonstrate why long-term planning is essential to effectively manage agricultural risk.



Drought is one hazard that affects every portion of the United States sooner or later, and producers are increasingly implementing new ways to better prepare and respond to it. The information, strategies and resources on this site are designed to provide producers with information on how to incorporate management strategies to reduce the threat drought poses to livestock and forage operations.

Our Philosophy and Purpose

- Drought is a normal part of climate...it will happen again.
- There are things you can do before, during, and after drought to reduce your risk.
- You should have both a long-term management plan and a drought response plan.
- The goal of this website is to help you become more resilient to hazards such as drought.

How to Use This Site

The [Introduction](#) section of this site provides in-depth information on climate and historical drought occurrence; the effects drought has on livestock, grasses, and grazing management; and drought-related financial considerations.

The [Before Drought](#), [During Drought](#), and [After Drought](#) sections detail long- and short-term management strategies that can be implemented to make your operation more resilient and prepared for drought conditions.

The [Write a Drought Plan](#) section describes how appropriate strategies can be identified and included in a drought plan for your operation, and the [Contacts and Resources](#) section provides examples of other producers who have developed drought plans, as well as, experts and other information sources to help you better prepare for and respond to drought.

Goals of This Meeting

- Outline a drought planning process
- Discuss components of the planning process
 - how to conduct an inventory?
 - how to determine critical dates?
 - suggestions for drought recovery?
- Reflections on the website and dissemination

**Thank you
for attending!**

