CATTLEMEN'S COLLEGE

WEDNESDAY, DEC. 10, 2025
8:00AM - 4:45PM

THE HEALTHY HERD:
WHAT IS IT? WHAT'S IT TAKE?
HOW TO PROTECT OR RECLAIM IT?

zoetis ADM MERCK Animal Health ZINPRO NMDA NEW MEXICO BEEF COUNCIL


New Mexico is
Beef Country.
NEW MEXICO
BEEF
COUNCIL
BEEF
Funded by Beef Farmers and Ranchers
Farmers and ranchers uphold values from pasture to plate.
Learn more at NMBeef.com

NEW MEXICO BEEF COUNCIL

Creating Connections

2025 By The Numbers

Earned MEDIA

3 TV Interviews - live and pre-recorded, earned media surrounding the Balloon Fiesta

2 Front Page newspaper Articles - One about ranching and one about balloon and beef promotion.

1 Million

Attendees seeing our BEEF balloon at the Albuquerque International Balloon Fiesta

Social Media

15.74M

Paid Social Media Impressions from Jan to Oct 31

5.8M Organic Social Media Reach

5 Videos reaching more than 1M views

Events

7

Hosted Events & Tours

1,000

Total Guests at Events

Nutrition

100+ Sports Nutrition Game Plan Signups

227 Toolkits Delivered to Doctor's Offices

40+ Current and Future Medical Professional- Farm Tour Attendees

Education

13 Classrooms visited from high schools to universities

54 Approved schools for Grants

73% Counties represented

nmbeef@nmbeef.com 505-835-5510 www.nmbeef.com

THE HEALTHY HERD:

WHAT IS IT? WHAT'S IT TAKE?
HOW TO PROTECT OR RECLAIM IT?

8:00 am **Welcome**

***8*:30-9:00am** **What's a "Healthy" Herd? -** Dr. Craig Gifford, Animal and Range Science Department, NMSU

Vaccination for a Healthy Herd

9:00-9:30am **Vaccination Best Practices—**Dr. John Wenzel, New Mexico State Extension Veterinarian

9:30-10:30am **Building Immunity to Fight Disease: Update on Current Vaccine Protocols**
Dr. Deanna Hardy, Merck Animal Health
Dr. JP Pollreisz, Zoetis Animal Health

10:30-10:45am **BREAK**

Nutrition's Influence on Herd Health and Immunity

10:45-11:00am **Nutrition Best Practices-** Dr. Eric Scholegerdes, Animal and Range Science Department, NMSU

11:00-12:00 **Supplementing to Meet the Needs of Your Herd**
Dr. Brian Fieser, ADM Animal Nutrition
Dr. Ty Davis, Purina Animal Nutrition
Dr. Clay Burson, Zinpro

12:00-1:30pm **LUNCH**

Updates and Preparing for Current, Major Threats to Herd Health, Including NWS and FMD

1:30-2:30pm **Major Threats to Herd Health, Including NWS and FMD**—Dr. Sammie Holeck, State Veterinarian, New Mexico Livestock Board

2:30-3:30pm **Ranch Bio Security and Livestock Movement Control -** Dr. Danelle Bickett-Weddle, Veterinary Consultant, Preventalytics

3:30-4:30pm **Producer Panel**
Jim Ross Caviness, Lawrence Hurt, Jim Bob Burnett,
Jeff Billberry, Alisa Ogden, Barbara Jackson

Concluding Comments

4:30-4:45pm **Closing remarks, surveys**

NEW MEXICO CATTLE GROWERS' ASSOCIATION

CATTLEMEN'S COLLEGE SPEAKERS

VACCINATION FOR A HEALTHY HERD

Dr. Craig Gifford
EXTENSION BEEF CATTLE SPECIALIST, NMSU

Dr. John Wenzel
NEW MEXICO STATE EXTENSION VETERINARIAN

Dr. Deanna Hardy
TECHNICAL SERVICES, MERCK ANIMAL HEALTH

Dr. "J.P." Pollreisz, DVM
MANAGING VETERINARIAN, BEEF TECHNICAL SERVICES, ZOETIS

NUTRITION'S INFLUENCE ON HERD HEALTH AND IMMUNITY

Dr. Eric Scholegerdes
PROFESSOR, NEW MEXICO STATE UNIVERSITY

Dr. Brian Fieser
BEEF CATTLE FIELD NUTRITIONIST, ADM ANIMAL NUTRITION

Dr. Ty Davis
TECHNICAL CATTLE CONSULTANT, PURINA

Dr. Clay Burson
BEEF CATTLE TECHNICAL CONSULTANT, ZINPRO

UPDATES AND PREPARING FOR CURRENT, MAJOR THREATS TO HERD HEALTH

Dr. Samantha Holeck
NM STATE VETERINARIAN

Dr. Danelle Bickett-Weddle
VETERINARY CONSULTANT, PREVENTALYTICS

PANELISTS

Jeff Bilberry
VICE PRESIDENT, SINGLETON RANCHES

Jim Bob Burnett
B & H HEREFORDS

Jim Ross Caviness
CAVINESS RANCH

Lawrence Hurt
HURT CATTLE COMPANY, INC.

Barbara Jackson
ANIMAL HEALTH EXPRESS, VAQUERO FEED & LIVESTOCK

Alisa Ogden
OGDEN FARMS & CATTLE CO.

Suggested Vaccine Protocol for Beef Cattle Herds

John C Wenzel DVM
Extension Veterinarian
New Mexico State University

CALVES:

Branding Vaccinations:

- Viral vacc- Bovishield Gold 5 OR Inforce 3 with additional One Shot BVD
- Blackleg- 7 or 8 way depending on location- Ultrachoice 7

Pre-weaning (2-4 weeks) OR First trip through chute at weaning:

- Virals- Bovishield Gold 5/ One Shot Combo
- Blackleg- Ultrachoice 7 OR Ultrabac 7/ Somubac
- Deworm- Name Brand- Ivomec or Dectomax (prefer injection)

Weaning Booster: (2-4 weeks after weaning)

- Virals- Bovishield Gold 5
- Blackleg- Must booster Ultrabac 7/ Somubac; +/- booster other blacklegs- Ultrachoice 7
- Replacement heifers- Vibrio/ Lepto Primary- Staybred VL5

REPLACEMENT HEIFERS:

- Pre-Breeding- Booster Virals- Bovishield Gold FP5
- Vibrio/ Lepto Booster- Staybred VL5

COWS and BULLS- Annual Vaccinations: (Preferably in fall at preg check)

- Virals: Cattlemaster Gold FP5
- Vibrio/Lepto- Staybred VL5
- Deworm- Use only Name Brand- Ivomec or Dectomax (prefer injection in fall)

CONSULT WITH YOUR VETERINARIAN BEFORE STARTING OR CHANGING AN ESTABLISHED VACCINE PROTOCOL - OTHER VACCINES MAY BE NEEDED.

Example Cattle Vaccine Protocol

MERCK Animal Health MINUTE

Make a Cattle Vaccine Plan

Pre-Calving

- Scours vaccine should be given 3 months prior to calving, followed by a booster dose 3-6 weeks later.
- This is far enough before calving to minimize the stress and possible effects from handling cattle near calving time.
- For subsequent calving, revaccinate with a single dose 5-7 weeks before calving.

Calving

- Healthy calves can be vaccinated as young as 1 week of age with an intranasal respiratory vaccine against the leading causes of early onset BRD.

First Working

- For calves 1 to 3 months of age, this is a crucial time as maternal antibodies decline and it is important to vaccinate calves for optimal production.
- Respiratory and clostridial vaccines are administered during this time period.

Branding/Turnout

- If giving a tetanus vaccine when castrating or banding bull calves, two doses are required prior to banding or castration procedure.

Pre-weaning

- Vaccinate calves at 14 to 21 days prior to weaning.
- Avoid the stressful weaning period to ensure stronger immune response to respiratory and clostridial vaccines prior to the high risk period of weaning.

Weaning

- If you must vaccinate during this time, delay working calves until the stress of weaning is over.
- It is best to wait until the calves are eating, drinking and most (if not all) have stopped walking and bawling.
- Parasite treatment should also be performed at this time – depending on the product label instructions.

Second Working/ Weaning

- If you have followed a pre-weaning or first working schedule, then second working will typically occur 2-6 weeks after the first working, or at weaning.

Pre-Breeding

- All pre-breeding MLV vaccines should be done 14–60 days prior to breeding to avoid any possible side effects or complications that could affect fertility.
- Consult with your veterinarian before using any vaccine on a pregnant or lactating cow.

Example Cattle Vaccine Protocol

MERCK Animal Health MINUTE

ACTIVITY	CATTLE TYPE	CATEGORY OF TREATMENT	MERCK ANIMAL HEALTH VACCINE
Pre-Calving	Pregnant Cows	Scours	BOVILIS® GUARDIAN®
Calving	Calves	Respiratory	BOVILIS® ONCE® PMH IN **OR** BOVILIS® NASALGEN® 3-PMH
First Working • If giving a tetanus vaccine when castrating or banding bull calves, two doses are required prior to banding or castration procedure.	Calves	Respiratory	BOVILIS® VISTA® ONCE SQ* **OR** BOVILIS® NASALGEN® 3** **OR** BOVILIS® NASALGEN® 3-PMH** **For use in calves 1 week of age or older
		Clostridial **OR**	**Choose one:** BOVILIS® VISION® 7/8 **OR** BOVILIS® VISION® 7/8 SOMNUS
		Clostridial + Tetanus	**Choose one:** BOVILIS® CAVALRY® 9 **OR** BOVILIS® COVEXIN® 8
		Pinkeye *6 weeks prior to peak fly and pinkeye season. Follow label directions for booster and booster interval*	**Choose one:** BOVILIS® PILIGUARD® PINKEYE **OR** BOVILIS® 20/20 VISION® 7 **+/-** MORAXELLA BOVOCULI
Second Working	Heifers/Steers	Respiratory Booster	**Choose one:** BOVILIS® VISTA® ONCE SQ*
		Clostridial Booster **OR**	**Choose one:** BOVILIS® VISION® 7/8 **OR** BOVILIS® VISION® 7/8 SOMNUS
		Clostridial + Tetanus	**Choose one:** BOVILIS® CAVALRY® 9 **OR** BOVILIS® COVEXIN® 8
		Pinkeye *6 weeks prior to peak fly and pinkeye season. Follow label directions for booster and booster interval*	**Choose one:** BOVILIS® PILIGUARD® PINKEYE **OR** BOVILIS® 20/20 VISION® 7 **+/-** MORAXELLA BOVOCULI
Pre-Breeding	Replacement Heifers/Cows	Respiratory + Lepto + Vibrio	BOVILIS® VISTA® 5 VL5 SQ CFP*

***Modified Live Vaccines:** All BOVILIS® VISTA® vaccines are labeled as being safe for use in pregnant heifers and cows or calves nursing pregnant cows provided the cows and heifers in the herd are vaccinated prior to breeding, within the previous 12 months, with any of the modified live IBR and BVD containing vaccine(s) in this product line. Read product label carefully. If cows have not previously been vaccinated with modified-live vaccines consult your veterinarian before use.

MERCK Animal Health

Integrated Calf Vaccination Program

Birth

- Inforce 3 (one cc each nostril)
- Ultrachoice CD (2cc subcutaneously)
- Scours vaccines optional

Branding/Turnout

- Inforce 3 (one cc each nostril)
- One Shot BVD (2cc subcutaneously)
- Ultrabac7/Somubac (5cc subcutaneously) OR UltraChoice 7 or 8 (2cc subcutaneously)

Preweaning

- Bovi-Shield GOLD One Shot (2cc subcutaneously)
- Ultrabac7/Somubac (5cc subcutaneously) OR Ultrachoice 7 or 8 (2cc subcutaneously)

Weaning

- Bovi-Shield GOLD 5 (2cc subcutaneously)
- Boost somnus with Somubac (2cc subcutaneously) if indicated

Feedlot Arrival

- Bovi-Shield GOLD 5 (2cc subcutaneously)

Choice of Clostridial products must take into account history of overeating disease in calves (CD), need for Histophilus, and location dependent presence of redwater disease (Clostridium haemolyticum requiring 8 way)

If ranches do not prewean but wean and revaccinate, substitute preweaning round above for weaning , and weaning round above for revaccination

One Shot BVD in nursing calves is extra label if dams have not been vaccinated with Bovi-Shield GOLD FP (should discuss with ranch and their veterinarian as to reproductive risk)

zoetis

Heifer Development and Cow Maintenance Vaccination Program

Heifers (regardless of preweaning vaccination)

Weaning

- Bovi-Shield GOLD One Shot
- Ultrabac 7/Somubac OR UltraChoice 7 or 8
- Be sure Somubac is boostered in 2 to 3 weeks if first dose given

Pre-Breeding (at least 30 days)

- Bovi-Shield GOLD FP5L5
- Spirovac or combo?
- Vibrin

Annual Maintenance

- CattleMaster Gold FP5L5
- Spirovac?
- Vibrin
- Ultrabac 7/Somubac OR UltraChoice 7 or 8

Adult Cows

- If open, vaccinate like heifer prebreeding
- If bred, vaccinate like annual maintenance on heifers
- If have not been prepped with Bovi-Shield GOLD FP, future protection is compromised

Bulls

- Prep young bulls like heifers
- Annual maintenance like heifer pre-breeding

zoetis

N O T E S

Nutrition Best Practices

Eric Scholljegerdes, Ph.D.
New Mexico State University, Department of Animal and Range Sciences

Raising beef cattle in New Mexico can be challenging to say the least. Intermittent precipitation, prolonged droughts, low quality forages, expansive rangelands all make our production system tough. However, when mother nature cooperates, it is as good as it gets anywhere. Understanding the basic principles of nutrition throughout the life cycle of the cow and calf help producers navigate the good and bad years.

Protein: In general, protein is the first limiting nutrient in dormant range forage. Amino acids are the building blocks of protein and dietary protein provides the ruminal bacteria and the animal with these building blocks. During the growing season, when forages are in their vegetative state, protein supply is generally adequate for beef cattle. However, when forage starts to senesce and turns brown, forage protein declines. Within the tables below you will find the quantity of protein required to meet the requirements of various classes of beef cattle. Provision of supplemental protein based on forage protein analysis is critical to ensure one is not over or under-feeding protein as it is one of the most expensive nutrients. When forage protein drops below 7% Crude Protein, forage intake also declines rapidly. Supplemental protein will increase forage intake through an increase in forage digestibility. Forage crude protein in New Mexico can be as low as 3% during the winter months, therefore it is critical to calculate the cow's deficiency to ensure the supply of adequate amounts of protein. In some cases, intake limited supplements do not provide enough supplemental protein to meet needs, even if it increases the digestibility of the forage.

Energy: Energy status drives many of the biological processes within the body. The brain and the female reproductive tract communicate and appear to be sensitive to circulating glucose. In rangeland bound production systems, the forages generally contain the energy needed to support needs. However, during the winter months, the carbohydrate becomes more mature and less digestible. Total Digestible Nutrients is a typical measure of energy based on the fiber composition in the forage. Typically, low protein supplements have a greater TDN value than higher protein supplements (e.g. 20% CP cube TDN concentration is greater than 32% CP cube TDN). Supplemental fat can also be a great way to increase energy supply. However, too much fat can negatively affect fiber digestibility and intake, so no more than 3% added fat should be provided.

Minerals: All minerals are critical for normal bodily functions. Calcium and phosphorus are the primary minerals observed on a feed tag, which require a 2:1 ratio. Phosphorus is typically the first limiting and has been shown to significantly improve forage utilization when fed to cattle grazing low-quality forages. Likewise, supplemental trace minerals, which include copper, zinc, selenium, and cobalt have also been demonstrated to maximize growth, reproduction, and health. Mineral challenges arise when antagonisms occur in

either the water or forages. Sulfur is one example of an antagonist that is present and dietary copper can become limiting because sulfur will tie up copper in the rumen. Therefore, copper deficiencies can manifest in these situations. Year-round supply of minerals that address shortages in the forage and antagonists is key to maximizing animal productivity.

Summary: Overall, the nutritional requirements for a typical beef herd can vary depending on physiological state. Understanding the interactions between nutrients and overall requirements allow for nutritional decisions that enhance the profitability of the operation.

Table 4. Mature Cow Requirements at Mature Unshrunk Weight

Mature Weight: Peak Milk Period	Month Since Calving	Daily Nutrients Required					Daily Nutrients as Percentage of Intake					
		TDN (lbs)	NEm (Mcal)	CP (lbs)	Ca (lbs)	P (lbs)	Intake lbs DM/d	TDN %DM	NEm Mcal/lb	CP %DM	Ca %DM	P %DM
1,200 lbs												
18 lb Peak												
Early Lactation	1	15.21	15	2.67	0.072	0.048	25.7	59.3	0.58	10.4	0.28	0.19
	2	16.06	16	2.94	0.08	0.052	26.5	60.5	0.6	11.1	0.3	0.2
	3	15.56	15.4	2.79	0.076	0.05	26	59.8	0.59	10.7	0.29	0.19
Mid Lactation	4	14.71	14.4	2.52	0.068	0.045	25.1	58.5	0.57	10	0.27	0.18
	5	13.87	13.4	2.24	0.06	0.041	24.2	57.2	0.55	9.2	0.25	0.17
	6	13.19	12.6	2.01	0.053	0.037	23.5	56.2	0.54	8.6	0.23	0.16
Mid Gestation	7	12.68	12	1.84	0.048	0.034	22.9	55.3	0.52	8	0.21	0.15
	8	10.32	8.9	1.43	0.035	0.027	21.1	48.8	0.42	6.8	0.17	0.13
	9	10.59	9.3	1.48	0.035	0.027	21.2	49.9	0.44	7	0.17	0.13
Late Gestation	10	11.06	10	1.58	0.059	0.037	21.4	51.8	0.47	7.4	0.27	0.17
	11	11.85	11.1	1.73	0.059	0.037	21.7	54.5	0.51	8	0.27	0.17
	12	12.95	12.6	1.97	0.059	0.037	22.4	57.9	0.56	8.8	0.26	0.16
1,300 lbs												
25 lb Peak												
Early Lactation	1	16.89	16.8	3.08	0.084	0.055	28	60.3	0.6	11	0.3	0.2
	2	17.99	18.1	3.42	0.094	0.061	29.1	61.7	0.62	11.7	0.32	0.21
	3	17.4	17.4	3.23	0.089	0.058	28.5	61	0.61	11.3	0.31	0.2
Mid Lactation	4	16.3	16.1	2.89	0.079	0.052	27.4	59.5	0.59	10.5	0.29	0.19
	5	15.21	14.8	2.54	0.069	0.047	26.2	57.9	0.56	9.7	0.26	0.18
	6	14.36	13.8	2.25	0.061	0.042	25.3	56.7	0.55	8.9	0.24	0.17
Mid Gestation	7	13.76	13.1	2.04	0.054	0.038	24.6	55.9	0.53	8.3	0.22	0.16
	8	10.99	9.5	1.52	0.038	0.029	22.4	49	0.42	6.8	0.17	0.13
	9	11.26	9.9	1.58	0.038	0.029	22.5	50	0.44	7	0.17	0.13
Late Gestation	10	11.8	10.7	1.68	0.064	0.04	22.7	52	0.47	7.4	0.28	0.17
	11	12.59	11.8	1.84	0.064	0.04	23.1	54.5	0.51	8	0.27	0.17
	12	13.84	13.5	2.11	0.064	0.04	23.8	58.1	0.57	8.8	0.27	0.17

Table 5. First Calf Heifers, Peak Milk:13 lbs (74% of Mature Production), NEm x 1.25 During Lactation

85% Mature Weight: and Period	Month Since Calving	Daily Nutrients Required						Daily Nutrients as Percentage of Intake						
		TDN (lbs)	NEm (Mcal)	NEg Mcal/lb	CP (lbs)	Ca (lbs)	P (lbs)	Intake lbs DM/d	TDN %DM	NEm Mcal/lb	NEg Mcal/lb	CP %DM	Ca %DM	P %DM
1,020 lbs														
Early Lactation	1	14.94	14.8	0.3	2.25	0.061	0.04	23.3	64	0.66	0.39	9.7	0.26	0.17
	2	15.62	15.6	0.3	2.46	0.067	0.043	24.1	64.9	0.67	0.39	10.2	0.28	0.18
	3	15.39	15.3	0.3	2.35	0.064	0.041	23.8	64.6	0.66	0.39	9.9	0.27	0.17
Mid Lactation	4	14.72	14.5	0.3	2.16	0.058	0.038	23.2	63.5	0.65	0.39	9.3	0.25	0.16
	5	14.14	13.8	0.3	1.96	0.052	0.035	22.6	62.6	0.63	0.39	8.7	0.23	0.15
	6	13.71	13.3	0.3	1.79	0.047	0.032	22.1	62	0.63	0.39	8.1	0.21	0.14
Mid Gestation	7	13.38	12.9	0.3	1.67	0.043	0.03	21.8	61.4	0.62	0.39	7.7	0.2	0.14
	8	9.85	8.1	0.3	1.38	0.034	0.025	19.4	50.8	0.45	0.39	7.1	0.17	0.13
	9	10.11	8.5	0.3	1.43	0.034	0.025	19.5	51.7	0.47	0.39	7.3	0.17	0.13
Late Gestation	10	10.58	9.2	0.3	1.52	0.055	0.033	19.8	53.4	0.49	0.39	7.7	0.28	0.17
	11	11.28	10.2	0.3	1.66	0.055	0.033	20.2	55.8	0.53	0.39	8.2	0.27	0.16
	12	12.27	11.6	0.3	1.88	0.055	0.033	20.9	58.8	0.58	0.39	9	0.26	0.16
1,105 lbs														
Early Lactation	1	15.7	15.5	0.3	2.34	0.064	0.042	24.6	63.8	0.65	0.39	9.5	0.26	0.17
	2	16.38	16.3	0.3	2.54	0.069	0.045	25.3	64.7	0.67	0.39	10	0.27	0.18
	3	16.13	16	0.3	2.44	0.066	0.044	25.1	64.3	0.66	0.39	9.7	0.26	0.17
Mid Lactation	4	15.55	15.3	0.3	2.24	0.061	0.04	24.5	63.5	0.65	0.39	9.1	0.25	0.16
	5	14.88	14.5	0.3	2.04	0.055	0.037	23.8	62.4	0.63	0.39	8.6	0.23	0.15
	6	14.46	14	0.3	1.88	0.05	0.034	23.4	61.8	0.62	0.39	8	0.21	0.15
Mid Gestation	7	14.12	13.6	0.3	1.76	0.046	0.032	23	61.3	0.62	0.39	7.6	0.2	0.14
	8	10.46	8.6	0.3	1.47	0.037	0.027	20.6	50.8	0.45	0.39	7.1	0.18	0.13
	9	10.8	9.1	0.3	1.52	0.037	0.027	20.8	52	0.47	0.39	7.3	0.18	0.13
Late Gestation	10	11.27	9.8	0.3	1.62	0.059	0.036	21.1	53.5	0.5	0.39	7.7	0.28	0.17
	11	11.96	10.8	0.3	1.77	0.059	0.036	21.5	55.7	0.53	0.39	8.3	0.28	0.17
	12	13.1	12.4	0.3	2.01	0.059	0.036	22.2	59	0.58	0.39	9.1	0.27	0.16

Table 7. Bred Heifer 60% Mature Weight at Breeding and 85% Mature Weight at Calving as 2 Year Old

Mature Weight and Range*	Month Since Conception	Daily Nutrients Required						Daily Nutrients as Percentage of Intake						
		TDN (lbs)	NEm (Mcal)	NEg (Mcal/lb)	CP (lbs)	Ca (lbs)	P (lbs)	Intake lbs DM/d	TDN %DM	NEm Mcal/lb	NEg Mcal/lb	CP %DM	Ca %DM	P %DM
1,100 lbs														
690 lbs	1	8.83	5.9	1.5	1.35	0.041	0.024	14.9	59.1	0.58	0.32	9	0.28	0.16
	2	9.12	6.1	1.6	1.37	0.042	0.025	15.4	59.2	0.58	0.32	8.9	0.27	0.16
	3	9.39	6.3	1.6	1.39	0.042	0.025	15.9	59.2	0.58	0.32	8.8	0.27	0.16
	4	9.73	6.6	1.7	1.43	0.043	0.026	16.4	59.4	0.59	0.33	8.7	0.26	0.16
	5	10.06	6.9	1.7	1.47	0.043	0.026	16.9	59.7	0.59	0.33	8.7	0.26	0.15
	6	10.51	7.4	1.7	1.54	0.044	0.027	17.4	60.3	0.6	0.34	8.8	0.25	0.15
	7	11.06	8.1	1.7	1.64	0.063	0.035	18	61.3	0.61	0.35	9.1	0.35	0.19
	8	11.85	9.2	1.7	1.8	0.064	0.036	18.8	63	0.64	0.38	9.5	0.34	0.19
1,020 lbs	9	12.69	10.5	1.5	2.04	0.067	0.037	19.6	64.7	0.67	0.4	10.4	0.34	0.19
1,200 lbs														
753 lbs	1	9.49	6.3	1.7	1.44	0.045	0.026	16	59.4	0.59	0.33	9	0.28	0.16
	2	9.78	6.5	1.8	1.47	0.046	0.027	16.5	59.4	0.59	0.33	8.9	0.28	0.16
	3	10.08	6.7	1.8	1.5	0.046	0.027	17	59.4	0.59	0.33	8.8	0.27	0.16
	4	10.42	7	1.8	1.53	0.047	0.028	17.5	59.6	0.59	0.33	8.8	0.27	0.16
	5	10.83	7.4	1.9	1.58	0.047	0.028	18	60	0.59	0.33	8.8	0.26	0.16
	6	11.28	7.9	1.9	1.65	0.048	0.029	18.6	60.5	0.6	0.34	8.9	0.26	0.16
	7	11.91	8.7	1.9	1.76	0.069	0.038	19.3	61.6	0.62	0.36	9.1	0.36	0.2
	8	12.69	9.8	1.8	1.93	0.07	0.039	20.1	63.1	0.64	0.38	9.6	0.35	0.19
1,113 lbs	9	13.67	11.3	1.7	2.19	0.072	0.04	21	65	0.67	0.4	10.4	0.34	0.19
1,300 lbs														
816 lbs	1	10.07	6.6	1.9	1.54	0.049	0.028	17	59.4	0.59	0.33	9.1	0.29	0.17
	2	10.45	6.9	1.9	1.57	0.049	0.029	17.5	59.6	0.59	0.33	8.9	0.28	0.16
	3	10.75	7.1	2	1.6	0.05	0.029	18	59.6	0.59	0.33	8.8	0.28	0.16
	4	11.18	7.5	2	1.63	0.05	0.03	18.6	60	0.59	0.33	8.8	0.27	0.16
	5	11.6	7.9	2.1	1.69	0.051	0.031	19.2	60.3	0.6	0.34	8.8	0.26	0.16
	6	12.13	8.5	2.1	1.76	0.052	0.031	19.9	61	0.61	0.35	8.9	0.26	0.16
	7	12.76	9.3	2.1	1.88	0.074	0.041	20.6	62	0.63	0.36	9.1	0.36	0.2
	8	13.61	10.5	2	2.06	0.076	0.042	21.4	63.5	0.65	0.38	9.6	0.35	0.2
1,205 lbs	9	14.66	12.1	1.8	2.35	0.078	0.043	22.4	65.4	0.68	0.41	10.5	0.35	0.19

Table 8. Growing Replacement Heifers (No Implant or Ionophore Adjustment)

Mature Weight and Range	Daily BW Gain (lbs)	Daily Nutrients Required						Daily Nutrients as Percentage of Intake						
		TDN (lbs)	NEm (Mcal)	NEg (Mcal)	CP (lbs)	Ca (lbs)	P (lbs)	Intake lbs DM/d	TDN %DM	NEm Mcal/lb	NEg Mcal/lb	CP %DM	Ca %DM	P %DM
1,100 lbs	0.5													
400 lbs		5.12	3.9	0.5	0.82	0.025	0.015	9.2	55.8	0.53	0.28	9	0.28	0.16
500 lbs		6.05	4.6	0.6	0.92	0.028	0.016	10.8	55.7	0.53	0.27	8.5	0.25	0.15
600 lbs		6.95	5.3	0.7	1.01	0.03	0.018	12.5	55.8	0.53	0.28	8.1	0.24	0.15
700 lbs		7.77	5.9	0.8	1.1	0.032	0.02	14	55.7	0.53	0.27	7.9	0.23	0.15
800 lbs		8.57	6.5	0.8	1.18	0.034	0.022	15.4	55.6	0.53	0.27	7.7	0.22	0.14
	1													
400 lbs		5.81	3.9	1.1	1.04	0.039	0.02	9.6	60.6	0.6	0.34	10.8	0.4	0.21
500 lbs		6.86	4.6	1.2	1.12	0.04	0.021	11.3	60.5	0.6	0.34	9.9	0.35	0.19
600 lbs		7.89	5.3	1.4	1.2	0.041	0.023	13	60.6	0.6	0.34	9.2	0.31	0.18
700 lbs		8.82	5.9	1.6	1.27	0.042	0.025	14.6	60.4	0.6	0.34	8.7	0.29	0.17
800 lbs		9.74	6.5	1.8	1.34	0.044	0.026	16.1	60.4	0.6	0.34	8.3	0.27	0.16
	1.5													
400 lbs		6.43	3.9	1.7	1.25	0.051	0.025	9.8	65.8	0.68	0.41	12.8	0.52	0.26
500 lbs		7.59	4.6	2	1.31	0.051	0.026	11.6	65.7	0.68	0.41	11.4	0.44	0.23
600 lbs		8.72	5.3	2.2	1.37	0.052	0.027	13.2	65.9	0.68	0.41	10.4	0.39	0.21
700 lbs		9.77	5.9	2.6	1.43	0.052	0.028	14.9	65.7	0.68	0.41	9.6	0.35	0.19
800 lbs		10.79	6.5	2.8	1.49	0.053	0.03	16.4	65.6	0.68	0.41	9	0.32	0.18
	2													
400 lbs		7	3.9	2.3	1.46	0.064	0.03	9.7	72	0.77	0.49	15	0.66	0.31
500 lbs		8.27	4.6	2.7	1.5	0.063	0.031	11.5	71.9	0.77	0.49	13.1	0.55	0.27
600 lbs		9.5	5.3	3.1	1.55	0.062	0.032	13.2	72.1	0.77	0.49	11.7	0.47	0.24
700 lbs		10.64	5.9	3.5	1.59	0.062	0.032	14.8	71.9	0.77	0.49	10.7	0.42	0.22
800 lbs		11.75	6.5	3.9	1.63	0.061	0.033	16.4	71.8	0.77	0.49	10	0.37	0.2
1,200 lbs	0.5													
400 lbs		5.08	3.9	0.5	0.82	0.026	0.015	9.2	55.5	0.53	0.27	9	0.28	0.16
500 lbs		5.99	4.6	0.6	0.92	0.028	0.017	10.8	55.4	0.53	0.27	8.5	0.26	0.15
600 lbs		6.88	5.3	0.6	1.01	0.03	0.019	12.4	55.5	0.53	0.27	8.2	0.24	0.15
700 lbs		7.7	5.9	0.7	1.1	0.032	0.021	13.9	55.4	0.52	0.27	7.9	0.23	0.15
800 lbs		8.5	6.5	0.8	1.19	0.035	0.023	15.4	55.3	0.52	0.27	7.7	0.23	0.15
	1													
400 lbs		5.74	3.9	1	1.04	0.039	0.02	9.6	60	0.59	0.33	10.9	0.41	0.21
500 lbs		6.77	4.6	1.2	1.12	0.04	0.022	11.3	59.9	0.59	0.33	9.9	0.36	0.19
600 lbs		7.79	5.3	1.4	1.2	0.042	0.023	13	60	0.6	0.34	9.2	0.32	0.18
700 lbs		8.71	5.9	1.5	1.27	0.043	0.025	14.5	59.9	0.59	0.33	8.8	0.3	0.17
800 lbs		9.62	6.5	1.7	1.35	0.045	0.027	16.1	59.8	0.59	0.33	8.4	0.28	0.17

Protein Supplementation

From Forage to Profit: The Science of Protein Supplementation with Roughage Buster

As forage quality declines in late summer and fall, grazing cattle face a critical nutritional challenge: the drop in forage crude protein content creates a nutrient deficit relative to the cow's crude protein requirements. Dormant grasses and crop residues are typically low in crude protein, which limits rumen microbial activity and reduces the efficiency of fiber digestion. This can lead to poor body condition, reduced milk production, lower weaning weights, reduced reproductive performance, and increased winter feed costs.

The most cost-effective strategy to minimize range cow production costs and maximize production is to maximize forage utilization and keep cows in moderate body condition year-round. A cow's body condition can be economically maintained by maximizing forage utilization through proper supplementation, which can result in greater profit potential. Getting the most value out of forages year-round is crucial to the viability of brood cow operations.

Protein supplementation during this period is not merely a nutritional adjustment—it is a strategic investment in herd health, productivity, and profitability. ADM's Roughage Buster offers a scientifically backed solution that enhances rumen function and maximizes the value of low-quality forage. Roughage Buster can be fed free-choice, reducing the amount of iron and fossil fuels required to provide supplemental nutrients to grazing cows.

THE ROLE OF PROTEIN

Protein is necessary to replenish turnover of body tissue, including muscle, gastrointestinal tract lining, blood, hair, and hooves. It is usually the first limiting nutrient for cattle consuming low-quality forages. Rumen microorganisms require protein to ferment fiber and other feedstuff components. When forage falls below around 7% crude protein, microbial activity slows, and cattle cannot efficiently utilize available fiber. This leads to energy deficits and poor performance.

Lack of protein in a brood cow's diet can lead to:

- Lower body condition score
- Higher feed costs
- Reduced conception rate
- Weak calf
- Lighter weight calf
- Poor health
- Reduced milking ability
- Low quality colostrum

NON-PROTEIN NITROGEN (NPN) SOURCES: UREA VS. BIURET

Traditional protein supplements often use urea, a fast-release NPN source. While effective under controlled conditions, urea can pose risks when management is not on par, especially in free-choice feeding scenarios.

Feeding higher levels of urea with high-forage diets is not as effective because much of the urea is not utilized due to the rapid ammonia release rate of urea. This rapid release

of ammonia into the rumen from urea can exceed the rumen microorganism's ability to utilize the ammonia and results in more ammonia being converted back into urea by the liver and excreted. Rapid ammonia release can also cause ammonia toxicity, which can lead to death.

Biuret, the primary protein source in Roughage Buster, offers a superior alternative. Biuret is a very safe source of NPN and has a rumen ammonia release rate similar to soybean meal (Figure One). Biuret can be utilized with forage-based diets with greater efficacy than feeding higher levels of urea.

BIURET MODE OF ACTION

- **Slow-release nitrogen:** Biuret releases ammonia gradually in the rumen, providing a sustained ammonia supply.
- **Stable microbial support:** Continuous nitrogen availability enhances microbial protein synthesis and fiber digestion.
- **Reduced toxicity risk:** The slower release of ammonia minimizes the chance of ammonia spikes, making it safer for free-choice feeding.

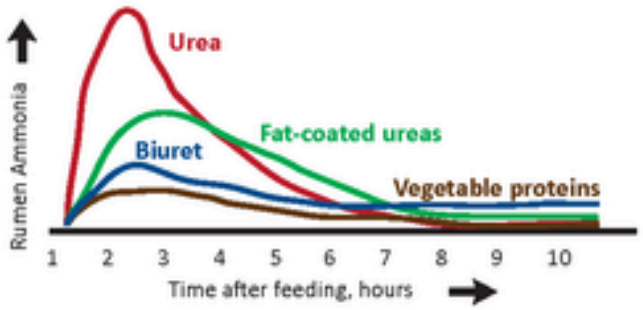
ROUGHAGE BUSTER: NUTRITIONAL AND ECONOMIC ADVANTAGES

ADM's Roughage Buster is formulated to deliver targeted protein supplementation with added vitamins and minerals. It's benefits include:

Nutritional Profile

- **Biuret:** Supports microbial activity over time,
- **Balanced mineral package:** Includes phosphorus, calcium, and 100% chelated trace minerals for metabolic and reproductive health,
- **Enhanced fiber digestion:** Highly soluble cobalt further supports greater microbial activity, further increasing fiber digestion and energy extraction,
- **Vitamin fortification:** Elevated levels of vitamin A to 3X NRC requirements (with proportional vitamins D and E) to correct deficiencies in mature forages,
- **Palatable carrier:** Encourages consistent intake, even in variable weather.

FIGURE ONE Rumen Ammonia Release Rates



Economic Impact

- **Improved forage utilization:** Cattle extract more energy from existing feed resources, reducing the need for additional energy supplementation or feeding for body condition increases later in the feeding season.
- **Low feeding rate:** Decreases per cow supplement cost while increasing return on investment.
- **Better body condition and fertility:** Leads to healthier calves, fewer open cows, and lower vet costs.

CONCLUSION: NUTRITION AS AN INVESTMENT

Feeding protein during late summer and fall is not just about meeting nutritional requirements—it's about investing in your herd's future. ADM's Roughage Buster provides a scientifically sound, free-choice, economically smart solution that turns low-quality forage into high-value performance.

By supporting rumen health, improving feed efficiency, and reducing risk, Roughage Buster helps producers achieve better outcomes—because smart nutrition is a smart investment.

GET RESULTS... *TALK TO OUR NUTRITION EXPERTS TODAY*

ADM.com/beef • 866-666-7626 • animalnutrition@adm.com

Got Tubs?

Purina® Protein Tubs

ACCURATION® HI-FAT BLOCK

- Self-fed product
- Poured-molasses tub
- 25% protein block
  - Balance nutrient deficiencies in forages
- Provide free-choice Wind and Rain® Mineral
- 10% added fat
  - High energy nugget delivers additional fat to maintain body condition and support reproduction
  - Concentrated rumen-protected fat source for optimal energy utilization

WHEN TO USE:

- Late fall grazing
- Decreased forage quantity and/or quality
- Corn stalk supplementation

FEEDING DIRECTIONS:

- 1.0 – 3.0 pounds per head daily
- 1 tub/20-30 cows
- Intake regulated by nutritional needs dependent on quality and quantity of forage

RANGELAND® 24-12 HI-FAT PROTEIN TUB

- Self-fed product
- Cooked-molasses tub for consistent intake and nutrient delivery
- Non-animal protein and fat sources for natural programs
- 24% protein (12% NPN)
- 10% added fat
  - High energy nugget delivers additional fat to maintain body condition and support reproduction
  - Concentrated rumen-protected fat source for optimal energy utilization
- Also available with Availa®4

WHEN TO USE:

- Maintain body condition
- Cattle on dormant or poor-quality forage (< 8% CP)
- Late fall grazing

FEEDING DIRECTIONS:

- 0.5 – 1.0 pounds per head daily
- 1 tub/20-30 cows

RANGELAND® 30-10 NEW MEXICO EXCLUSIVE TUB

- Self-fed product
- Exclusively made for New Mexico Producers
- Cooked molasses tub for consistent intake and nutrient delivery
- Also available with Altosid Fly Control

WHEN TO USE:

- To maintain cattle body condition
- Cattle on dormant or poor-quality forage (< 8% CP)

FEEDING DIRECTIONS:

- 0.5-1.0 pounds per head daily
- 1 tub/20-30 cows

RANGELAND® 38 HI-E TUB

- Self-fed product
- Cooked-molasses tub for consistent intake and nutrient delivery
- 38% protein
- 12% added fat
  - Provides additional energy to cattle on low to medium quality forages
- Also available with Availa®4

WHEN TO USE:

- Cattle in good condition but nutrient requirements are increasing
- Cattle on fair to medium quality forage

FEEDING DIRECTIONS:

- 0.5 – 1.0 pounds per head daily
- 1 tub/20-30 cows

REACH OUT TO FIND THE RIGHT PROGRAM FOR YOUR OPERATION

Eastern NM - **STEVE SWIFT (575) 760-3112**

Western NM - **JORAM ROBBS (520) 576-8011**

Got Tubs?

Purina® Mineral Tubs

WIND + RAIN® ALL SEASON 4 AVAILA® 4 TUB

- Self-fed product delivers consistent consumption
- Cooked-molasses mineral tub
  - Contains proper balance of the 14 essential macro and micro minerals
  - Vitamin supplementation of A, D, and E
- Availa® 4 trace minerals formulated at Zinpro® research-recommended rate

WHEN TO USE:

- Cow/calf, seedstock and stocker operations
- Prior to breeding or embryo transfer
- Weaning and receiving cattle, stressed cattle

FEEDING DIRECTIONS:

- 1/4 to 1/2 pound per head daily
- 1 tub/20-30 cows

WIND + RAIN® ALL SEASONS 4 AVAILA® 4 + ALTOSID® TUB

- Self-fed product delivers consistent consumption
- Cooked-molasses mineral tub
  - Contains proper balance of the 14 essential macro and micro minerals
  - Vitamin supplementation of A, D, and E
- Availa® 4 trace minerals formulated at Zinpro® research-recommended rate
- Altosid® IGR for pasture fly control

WHEN TO USE:

- Pasture fly control for cow/calf, seedstock and stocker operations
- Prior to breeding or embryo transfer
- Weaning and receiving cattle, stressed cattle

FEEDING DIRECTIONS:

- 1/4 to 1/2 pound per head daily
- 1 tub/20-30 cows

WIND + RAIN® PROCYCLE®

- Self-fed product delivers consistent consumption
- Cooked molasses mineral tub
  - Contains the proper balance and ratios of all 14 essential cattle minerals
  - Vitamin supplementation of A, D, and E
  - ProPath 4 organic trace minerals at Zinpro research-recommended rate of highly bioavailable essential trace minerals (zinc, copper, manganese, and cobalt)
- Help cows prepare and recover from production stress during gestation, calving, and lactation
- Proprietary blend of fungal enzymes to enhance forage digestion and optimize dietary energy usage.

WHEN TO USE:

- Seedstock and cow/calf operations,
- Prior to breeding and embryo transfer

FEEDING DIRECTIONS:

- 1/4 to 1/2 pound per head daily
- 1 tub/20-30 cows

PURINA® STRESS TUB 2.0

- Self-fed product delivers consistent consumption to weaning and receiving cattle
- Cooked-molasses mineral tub
  - Contains proper balance of the 14 essential macro and micro minerals
  - Elevated vitamin supplementation of A, D, and E
- Yeast for digestive health and immune function
- ProPath® 4 organic trace minerals at Zinpro® research-recommended rate
- KemTRACE® Chromium for maximizing glucose uptake

WHEN TO USE:

- Weaning and Receiving Pens, Stressed Cattle
- Provide Access to Timid or Green Calves
- Reduce Labor Costs When Attending to Calf Health

FEEDING DIRECTIONS:

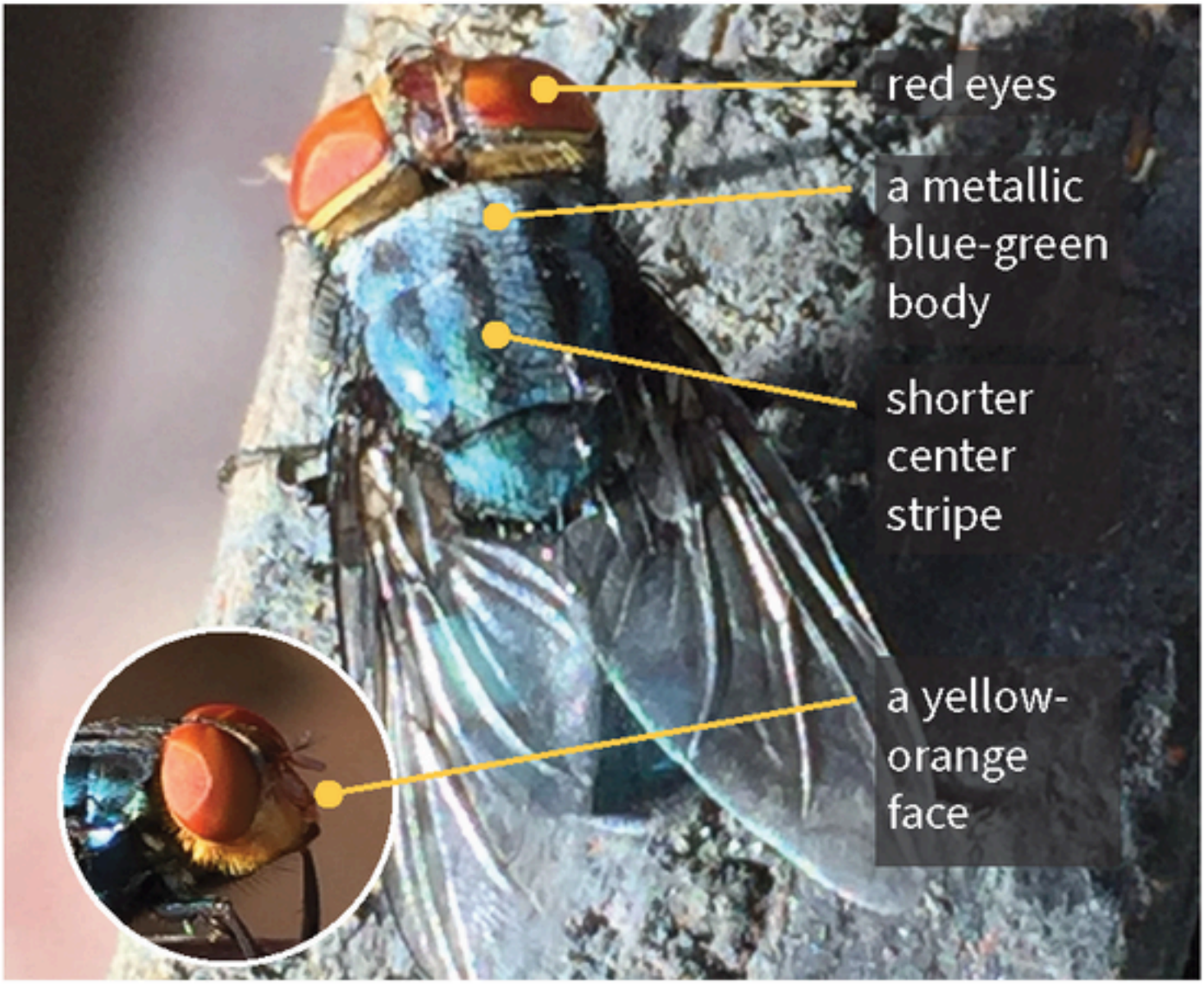
- 1/4 to 1/2 pound per head daily
- 1 tub/20-30 cows

N O T E S

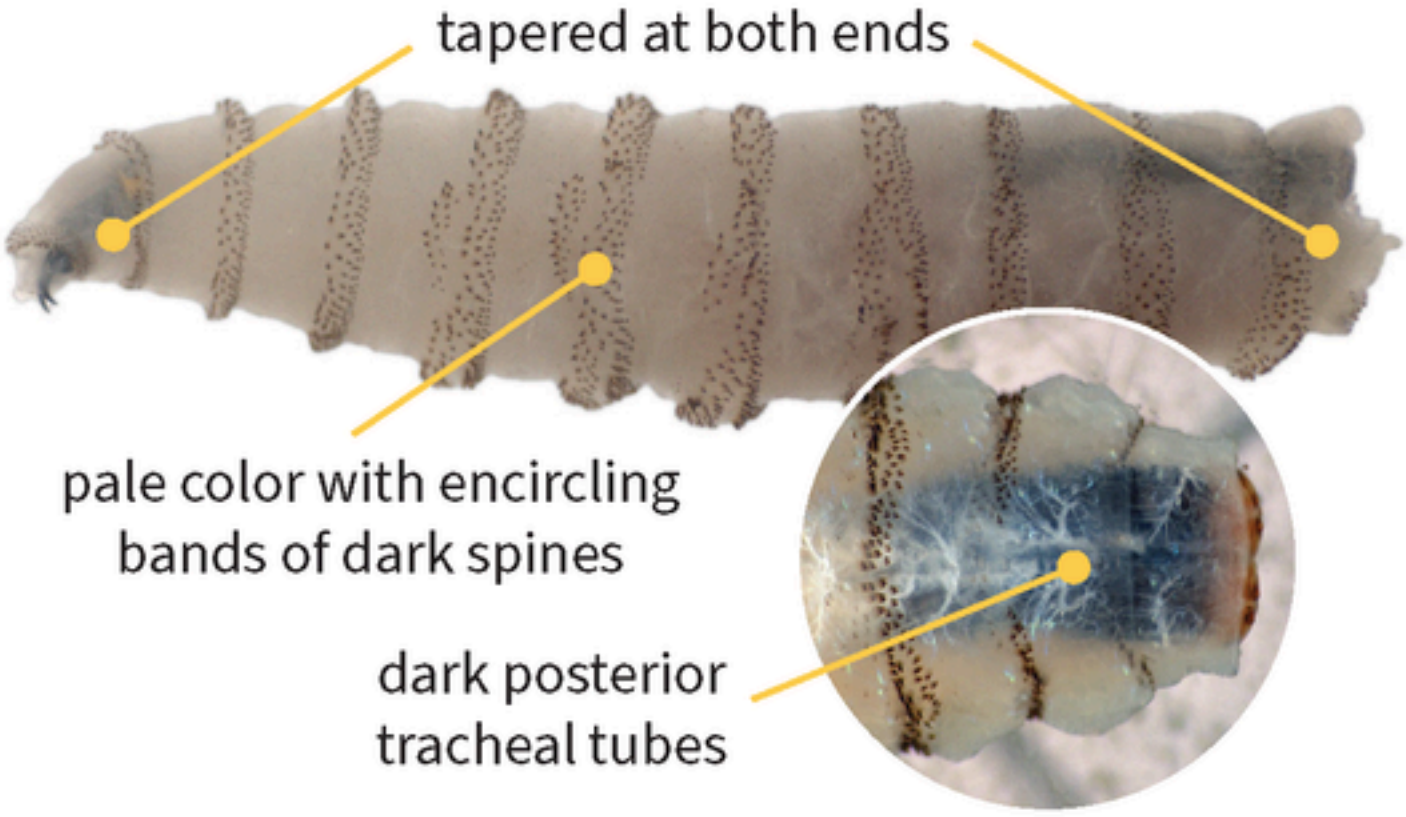
USDA Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

New World Screwworm

New World screwworm is a devastating pest that can affect livestock, pets, wildlife, occasionally birds, and in rare cases, people. Adult screwworm flies are about the size of a common housefly (or slightly larger).



Screwworm larvae (maggots) burrow into a wound, feeding as they go like a screw driving into wood. The maggots cause extensive damage by tearing at the hosts' tissue with sharp mouth hooks. The wound becomes deeper and larger as more maggots hatch and feed on living tissue.



Scan the QR code to learn more about this pest. Immediately report signs to your State Animal Health Official (**www.usaha.org/saho/**) or USDA Area Veterinarian in Charge (**www.aphis.usda.gov/contact/animal-health**)

APHIS-25-033 | May 2025

USDA Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

New World Screwworm

(*Cochliomyia hominivorax*)

New World screwworm (NWS) is a devastating pest of livestock. It can affect any warm-blooded animal. It can also affect people. Untreated screwworm infestations can be fatal to livestock, wildlife, and humans. Not controlling the pest in a livestock population can damage a country's economy.

Distribution

NWS is endemic in Cuba, Haiti, the Dominican Republic, and countries in South America.

Since 2006, the United States and Panama have maintained a barrier zone in eastern Panama. This barrier zone prevents NWS from moving north from South America to screwworm-free areas in Central and North America.

In 2023, APHIS confirmed an unprecedented number of NWS cases in Panama. Since then, cases have been detected in every Central American country and Mexico.

Hosts

NWS can affect livestock, pets, wildlife, occasionally birds, and in rare cases, people.

This pest can infest a wide variety of wounds, from tick bites to cuts and dehorning or branding wounds. Infestations are very common in the navels of newborn animals and the genital regions of their mothers.

Description

Adult screwworm flies have orange eyes, a metallic blue or green body, and three dark stripes along their backs. The center stripe begins partway down the backside and appears shorter than the outer stripes.

Screwworm larvae (maggots) burrow into a wound, feeding as they go like a screw driving into wood. The maggots cause extensive damage by tearing at the hosts' tissue with sharp mouth hooks. The wound becomes deeper and larger as more maggots hatch and feed on living tissue.

Impact

NWS can threaten the livelihood of livestock producers. It can cause millions of dollars' worth of production losses and economic damage. Screwworm also pose a threat to humans in infested areas.

What You Can Do

Immediately report signs of screwworm to your local veterinarian, State veterinarian's office, or USDA (**www.aphis.usda.gov/contact/animal-health**). Look for the following signs in warm-blooded animals (including pets and birds):

- Irritated behavior
- Head shaking
- The smell of decay
- Presence of maggots in a wound

Adult screwworm fly

If you travel with a dog to regions affected by screwworm, know the requirements for returning to the United States. Go to **www.aphis.usda.gov/pet-travel/another-country-to-us-import/dogs** for more information.

If you live or are traveling in areas affected by screwworm, have your animals inspected before you move them. Use available animal checkpoints to prevent the spread of this pest.

Learn More

For more information about screwworm, including information on the NWS outbreak in Central America and Mexico, go to **www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm**.

For information on how screwworms affect people or to report human disease, please visit **www.cdc.gov/myiasis/about/about-new-world-screwworm-myiasis.html**.

APHIS-24-036 | Slightly revised January 2025

Livestock on Public Lands
During a Foreign Animal Disease Outbreak

October 2025

Project Overview: In the event of a foot-and-mouth disease (FMD) outbreak, sheep and cattle owners face unique challenges to mitigate disease exposure risks on public land allotments. This collaborative project further explores these complexities and will customize guidance documents for industry and decision makers in New Mexico, Arizona, and Colorado to support animal movement decisions in an FMD outbreak. An **Advisory Group** of public land grazing stakeholders consisting of sheep and cattle producers, livestock associations, federal land management agencies, wildlife agencies, state animal health officials, and USDA from these three states are proactively determining livestock management options and movement strategies necessary to ensure regional applicability and protect this important sector during an FMD outbreak. This project is funded by the USDA National Animal Disease Preparedness and Response Program (NADPRP) and leverages previous work done by the American Sheep Industry and National Cattlemen's Beef Associations.

Objectives

1. **Create an advisory group** representing public land grazing stakeholder interests in New Mexico, Colorado, and Arizona to contribute to, review, and exercise guidance documents and promote awareness within their respective industry or agency segment. **Completed June 2025**
2. **Review and modify guidance documents** for sheep and cattle grazing public land allotments based on New Mexico's jurisdictional authorities and local knowledge. **In progress**
3. **Conduct a discussion-based exercise** to assess the inter-jurisdictional movement guidance and modify them as needed. **Scheduled for January 22, 2026**

Outcomes: This effort will better prepare New Mexico sheep and cattle producers whose livestock graze public lands to voluntarily prepare before a FAD outbreak. It will also provide New Mexico, Colorado, and Arizona state and federal decision makers with a better understanding of the management practices, capabilities, and limitations of grazing sheep and cattle on public lands. Together, customized guidance documents will ensure regional applicability for a disease that will not respect state borders.

Project Contacts

Marshal Wilson, Co-Director, Southwest Border Center; mwilson@nmda.nmsu.edu
Marcy Ward, Extension Livestock Specialist, New Mexico State University; mward@nmsu.edu
Dr. Danelle Bickett-Weddle, Veterinary Consultant, Preventalytics; dbw@preventalytics.com

NM STATE
Southwest Border Food Protection and Emergency Preparedness Center
College of Agricultural, Consumer and Environmental Sciences
New Mexico Department of Agriculture
NMDA
New Mexico Department of Agriculture
PREVENTALYTICS

What to Expect in a National Movement Standstill

Following the first finding of foot-and-mouth disease (FMD) in the U.S.

SBS SECURE BEEF SUPPLY
www.securebeef.org

WHY WOULD THIS HAPPEN?

Foot-and-mouth disease (FMD) is the most contagious disease of two-toed (cloven-hooved) animals. USDA could issue a National Movement Standstill if FMD infection is found in domestic or feral animals. Stopping animal movement is one way to slow or stop the spread of this contagious disease.

Infected animals develop blisters on their feet, teats, and in their mouth. They do not want to walk, eat, and produce less milk. Young animals may die from FMD. Stopping movement also could protect animals from getting sick or dying.

WHO WOULD IT AFFECT?

Live cattle, sheep, goats, pigs, bison, elk, deer, and their germplasm (semen, embryos, oocytes) are subject to the Movement Standstill. They could all get infected with FMD if exposed.

A USDA standstill notice would **NOT** include any products produced from a USDA Food Safety and Inspection Service (FSIS)-inspected facility (meat for human consumption, non-edibles for rendering, pelts/skins/hides, etc.). It would **NOT** include milk moving to processing. To learn more about FMD, visit www.securebeef.org for videos and facts.

WHEN WOULD IT START AND HOW LONG WILL IT LAST?

A set start and stop time for the national standstill would be announced (e.g., 5:00 pm EST). Officials may issue a 12-hour grace period before the standstill "starts". This allows livestock and germplasm (semen, embryos, oocytes) already on the road to arrive.

The standstill could last 24, 48, or 72-hours or longer in some areas. The length of time is to find other infected or suspected livestock. This depends on how quickly the owner or manager of the infected animals can provide movement records. Stopping spread will require finding out what animals, people, or equipment may have had contact with infected animals.

WHERE WOULD THE STANDSTILL OCCUR?

The standstill would be nationwide at first. An infected animal in California for example, will subject cattle moving in Colorado, Tennessee, and Florida to a standstill. Livestock haulers already on the road will need to talk with dispatch or the animals' owner. They will decide if it is safer to continue on or return to the origin. Officials may waive or extend current transportation hour limits. This will be communicated by USDA, State Officials, and livestock organizations like the National Cattlemen's Beef Association (NCBA).

WHAT WOULD OR WOULD NOT HAPPEN DURING THIS TIME?

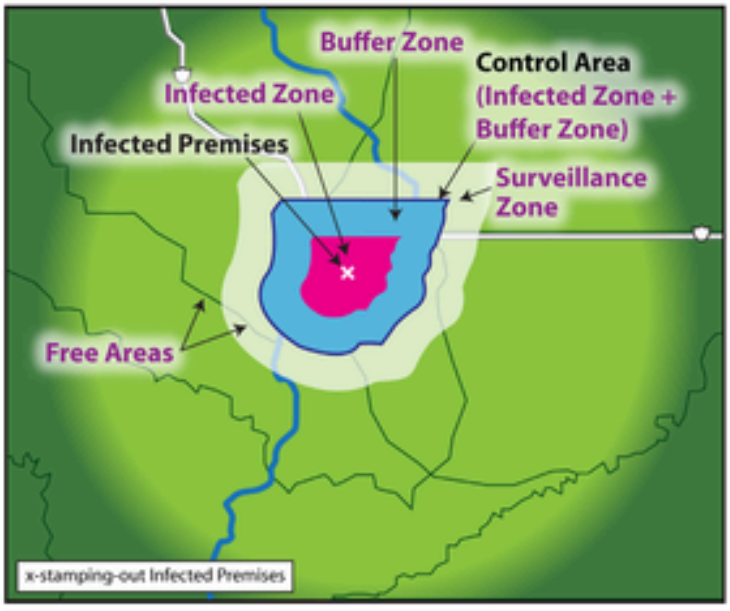
All livestock movements that are in progress when a standstill is announced should continue to their destination or return to their origin. Livestock haulers or transporters should contact dispatch or the owner and follow their guidance.

Livestock must be cared for. They should not be abandoned in trailers, at livestock markets, buying stations, or other areas where long-term feeding, watering, and caretaking are not available. Animals at harvest facilities should be processed if they pass FSIS ante- and post-mortem inspection. No new movements of animals should start until the standstill is lifted.

Officials will set up a Control Area around the infected premises during the standstill. All livestock that could get FMD in this area will be put under quarantine. No animals will be allowed to move even after the standstill lifts unless they have an outbreak movement permit. Each State will set the permit criteria.

Producers will need to provide information to the State to show their animals are at low risk of spreading FMD. Only animals that have no evidence of FMD infection will be allowed to move. Livestock haulers and transporters will need a copy of the permit when moving cattle.

The Secure Beef Supply Plan at www.securebeef.org has outbreak movement permitting guidance. The resources will prepare producers, livestock haulers/transporters, and packers to maintain business continuity during an outbreak.



Source: USDA APHIS FMD Response Plan

WHAT CAN PRODUCERS AND HAULERS DO TO PREPARE?

Visit www.securebeef.org for guidance. Producers can start by getting a Premises Identification Number (PIN) for their farm, ranch or feedlot. They can also keep movement records and write an enhanced biosecurity plan.

Producers and haulers can make a "what if" or contingency plan for a movement standstill. Livestock owners should find places for their livestock in case they cannot return. Planning before the chaos of an outbreak can help protect cattle and provide business continuity options.

ACKNOWLEDGMENTS

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ADDITIONAL RESOURCES

The Secure Beef Supply website has additional resources available at: www.securebeef.org

STEP 1: MOVEMENT RISKS AND BIOSECURITY

Items moving on and off your farm/ranch can bring disease. Identifying movement risks can help you prevent them. Check the box that best describes how often each movement occurs. Are most of your checkmarks in the two left columns (lower risk)? Great! Fewer movements help keep disease away from your animals. Do you have items marked in the three right columns (higher risk)? Those need your attention first. Pick one or two to start. Find Biosecurity Tip Sheets to learn about changes you can make. Continue working on biosecurity with Step 2: Biosecurity Checklist and Step 3: Biosecurity Plan template to write your biosecurity plan. These resources can help you protect your animals' health!

		INCREASING LEVEL OF RISK → → → → → →				
INPUTS/OUTPUTS	MOVEMENT	NEVER	YEARLY	MONTHLY	WEEKLY	DAILY
Animals and Animal Products	Incoming animals/birds	☐	☐	☐	☐	☐
	Outgoing animals/birds	☐	☐	☐	☐	☐
	Semen/embryos	☐	☐	☐	☐	☐
	Milk, colostrum, eggs (whole shell, liquid, hatching)	☐	☐	☐	☐	☐
	Dead animal removal	☐	☐	☐	☐	☐
	Manure, litter, or compost removal	☐	☐	☐	☐	☐
Deliveries	Feed	☐	☐	☐	☐	☐
	Bedding	☐	☐	☐	☐	☐
	Fuel, propane, CO2	☐	☐	☐	☐	☐
	Livestock/poultry trucks, trailers	☐	☐	☐	☐	☐
	Mail, package delivery services, etc.	☐	☐	☐	☐	☐
Personnel	People with animal contact	☐	☐	☐	☐	☐
	People without animal contact	☐	☐	☐	☐	☐
Other	Trash, recycling	☐	☐	☐	☐	☐
	Wildlife, rodents, birds, neighbor dogs or cats	☐	☐	☐	☐	☐
	Grounds keeping	☐	☐	☐	☐	☐
	Traffic related to residence, home	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐

EXPLANATION OF MOVEMENTS

ANIMALS AND ANIMAL PRODUCTS

- Incoming animals: New animals added to the herd/flock, or animals returning from shows, fairs, or breeding.
- Outgoing animals: Animals leaving the herd/flock for good, or those going to shows, fairs, or breeding that will return.
- Animal products: Semen, embryos, milk, eggs, etc. that may come onto or leave the operation.
- Carcass removal: Carcasses picked up by rendering trucks that may visit other operations.
- Manure, litter, or compost removal: Hauler coming onto the property that may visit other farms/ranches.

DELIVERIES

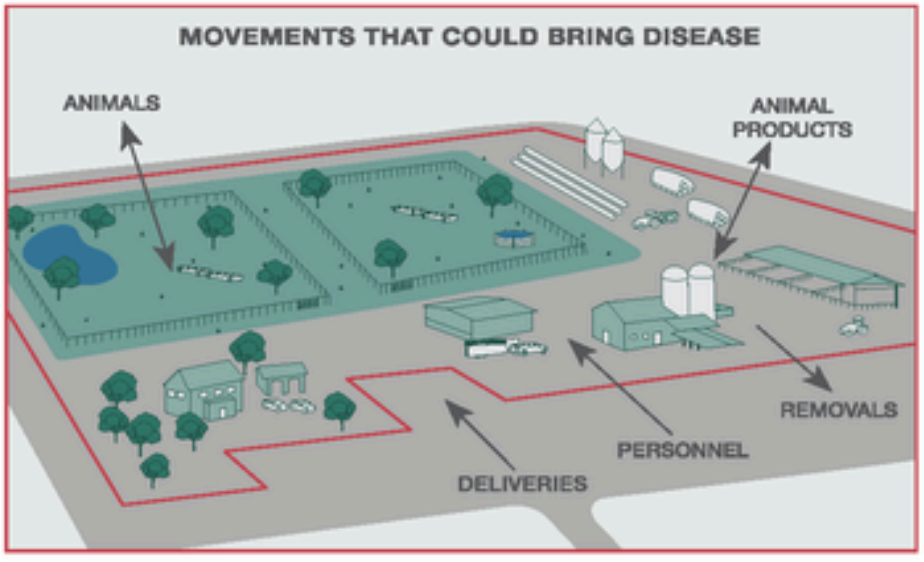
- Items like vehicles, trucks or trailers that come onto the property that may go to other animal operations.
- Feed deliveries include bagged or bulk ingredients, hay, silage, grain, mixes, etc.
- Other delivery types like mail, package delivery, drugs, supplies etc.

PERSONNEL

- People with or without animal contact: Workers, family members, veterinarians, AI techs, extension, agritourism visitors with animal contact.
- People without animal contact: Maintenance, electricians, other service providers, agritourism visitors without animal contact, produce stands, seed, meat or egg sales.

OTHER

- Trash, recycling: Vehicles that come onto the property that may go to other animal operations.
- Wildlife, rodents, birds, neighbor pets: Variety of animals that may have contact with the herd/flock (or farm).
- Grounds keeping equipment: Skid loaders, mowers, tractors, etc. that may be used on other animal operations.
- Traffic related to residence/home: Vehicle traffic, school bus, deliveries, etc. that drive past animals or animal areas.



- Other items not listed: Fill in the blank with any other items that come onto or go off of your operation.

ACKNOWLEDGMENTS

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STEP 2: SELF-ASSESSMENT BIOSECURITY CHECKLIST – BEEF CATTLE

Biosecurity measures are needed daily to help keep animals healthy. This checklist applies to:

- Operations of all sizes and management types that raise cattle on pasture or feedlot with or without other animals (e.g., pigs, sheep, goats, poultry, etc.).
- Operations with cattle that have had disease challenges (e.g., bovine viral diarrhea; respiratory diseases caused by BRSV, IBR, *Pasteurella*, *Mannheimia*, etc.; diarrhea caused by Johne's Disease, *E. coli*, *Salmonella*, viruses) or with the goal of preventing disease challenges.
- All individuals working on, delivering to, servicing, or visiting the cattle operation.

BIOSECURITY PLANNING, MANAGING, AND TRAINING

Biosecurity plans do not have to be complex to work. A plan should address all the ways disease could enter or spread on your operation and describe actions to prevent it. Step 1: Fill out the Movement Risks and Biosecurity document. Step 2: Fill out this checklist. Step 3: Use the biosecurity template to write a biosecurity plan, if that is your goal. Once written, manage biosecurity actions and train others about what is needed. Want to learn more about the topics below? We have a Tip Sheet for each one.

Look through the questions below. Answer those that apply to your operation and ignore/cross off the others.

TRAINING

Trained personnel know the actions needed to keep animals healthy.

YES	NO	
☐	☐	Are people entering the operation informed of biosecurity measures?

PROTECTING YOUR CATTLE

Disease can enter from outside sources. Biosecurity actions can protect your animals from disease. Limiting entry to your operation can protect your cattle. Find ways to put up "castle walls" around your livestock. Then protect them by a "moat" or a line of separation (LOS). Entry is only via "drawbridges" or access points, controlled by the people on the operation.

YES	NO	
☐	☐	Do you have designated entry points to your operation?
☐	☐	Can you limit entry to your operation?
☐	☐	Are signs posted at entry points with biosecurity information?
☐	☐	Do you have a parking area for vehicles that is away from animal areas?
☐	☐	Do you record movements of animals, vehicles, equipment, people, etc.?
☐	☐	Are on-farm livestock prevented from nose-to-nose contact with livestock on adjacent premises?

ANIMAL HEALTH AND DISEASE MONITORING

Good husbandry combined with good biosecurity helps animals thrive.

YES	NO	
☐	☐	Do your animals have access to a clean, dry place to rest?
☐	☐	Do those working with animals on your operation follow good animal handling practices?
☐	☐	Do animal caretakers check animals often for signs of disease?
☐	☐	Do you have a separate area to isolate sick animals?
☐	☐	Do animal caretakers work with the healthiest and youngest animals first, then older animals, then sick animals last?
☐	☐	Do you have system for animal caretakers to record health treatments and report animal health issues?
☐	☐	Do you investigate all animals with unusual signs or those who don't respond to treatment, especially sudden deaths?

VEHICLES AND EQUIPMENT

Animal diseases can be spread by dirty or shared vehicles, machinery, and equipment. Use the Step 1 Movement Risks and Biosecurity document for a list of things that come on or leave.

YES	NO	
☐	☐	Can you limit entry of shared vehicles, machinery and equipment if they are dirty?
☐	☐	If equipment is shared with other animal operations, is it cleaned and disinfected before entering your property?
☐	☐	Can off-farm vehicles and equipment stay outside animal areas?

CLEANING AND DISINFECTION (C&D)

Cleaning and disinfection – also referred to as C&D – is a key part of biosecurity. C&D reduces or kills germs that can spread disease to your animals.

YES	NO	
☐	☐	Do you thoroughly clean (remove any visible manure, dirt, bedding) and wash all objects before applying a disinfectant?
☐	☐	Are disinfectants used according to the product label (storing, mixing, concentration, protective gear, rinsing, etc.)?
☐	☐	Do you always allow a disinfection solution contact time to "sit" and work?
☐	☐	Are safety measures (e.g., avoiding runoff, wearing safety equipment) taken during C&D?

PERSONNEL (INCLUDING FAMILY MEMBERS, EMPLOYEES, VISITORS)

People who handle animals should be limited to those with clean clothing, clean footwear, and clean hands. This can also protect people from zoonotic diseases that animals can spread to people.

YES	NO	
☐	☐	Do you limit who has contact with your animals?
☐	☐	Do you ask all people handling animals to sign in and disclose their last known livestock contact?
☐	☐	Do you restrict people who have traveled internationally from entering your operation?
☐	☐	Do you provide/require clean footwear for people entering animal areas?
☐	☐	Do you provide gloves or a handwashing station with running water, soap, and towels for animal handlers?
☐	☐	Do you provide/require clean clothing for people entering animal areas?

ANIMAL MOVEMENT

Animals moving on and off your property can introduce and spread disease if biosecurity steps are not taken.

YES	NO	
☐	☐	Are your livestock individually identified?
☐	☐	Do you record all animal movement on and off the premises?
☐	☐	Do you buy animals only from places with similar or stricter biosecurity programs?
☐	☐	Are new or returning animals separated (quarantined) from all other livestock for 21-30 days before mixing with your home herd?
☐	☐	Is separate feed and water equipment used for new or returning animals?
☐	☐	Are cattle from outside sources tested for common diseases before mixing with the home herd?
☐	☐	Do you have an emergency plan to care for your animals in the event of a natural disaster or other event that could stop animal and supply movement?

ANIMAL PRODUCTS

Animal products (semen, embryos, milk) can also introduce disease if biosecurity steps are not taken.

YES	NO	
☐	☐	Do you purchase semen/embryos from operations with similar or stricter biosecurity programs?
☐	☐	Do you record all semen/embryo movement on and off the premises?
☐	☐	Do you limit purchases of colostrum/milk to pasteurized sources?

CARCASS DISPOSAL

Farms and ranches lose animals due to disease. Dead animals should be disposed of to prevent exposure to live animals. Carcass disposal may include burial, burning, composting, landfill, or rendering. Local and state rules on carcass disposal must be followed.

YES	NO	
☐	☐	Do you know the approved options to dispose of carcasses in your area?
☐	☐	Are rendering trucks or other vehicles that haul dead animals to a common disposal site restricted from entering your property?
☐	☐	Are dead animals disposed of in a way that prevents the attraction of wildlife, rodents, and other scavengers?

MANURE MANAGEMENT

Manure can be good for the soil, but can also contain disease causing germs. Safe handling can help prevent animal and human disease. Local and state rules on manure disposal must be followed.

YES	NO	
☐	☐	Is animal housing regularly maintained to prevent manure buildup?
☐	☐	Is manure removed and stored to prevent exposing young animals to disease agents?

RODENT, WILDLIFE, AND OTHER ANIMAL CONTROL

Wildlife, rodents, birds, and other animals like cats and dogs can carry disease on their fur, feet, feathers, or feces. Keeping these animals away from animal areas takes effort.

YES	NO	
☐	☐	Do you have an on-farm person or professional company place and monitor rodent/pest bait use according to label directions?
☐	☐	Are steps taken to minimize bird and rodent nesting around your operation?
☐	☐	Is trash removed often?
☐	☐	Are roaming dogs and cats prevented from roaming between operations?

FEED AND WATER

Feed and water are essential for animal health. Proper handling is important to prevent contamination.

YES	NO	
☐	☐	Is fresh, clean water available to all animals throughout the day?
☐	☐	Are waterers and the areas around them regularly cleaned, and debris removed?
☐	☐	Do you have a plan to provide water to livestock if it becomes unfit to drink?
☐	☐	Do you purchase feed only from reputable sources with a quality control program?
☐	☐	Is grain and feed delivered, stored, mixed, and fed in a manner that minimizes contamination?
☐	☐	Are feed spills cleaned up immediately?
☐	☐	If the same equipment is used for feed and manure handling, is it thoroughly cleaned and disinfected before used for feeding?
☐	☐	Are feeders and the areas around them regularly cleaned, and debris removed?

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SURVEYS

LET US KNOW HOW WE DID...
PLEASE COMPLETE THE SURVEY. USE THE QR CODE OR SUBMIT A HANDWRITTEN RESPONSE.