CELMANAX™

Prepare the immune system.

#ScienceHearted

At ARM & HAMMER™ we think big on a microscopic level to deliver safe feed and food solutions that drive business forward. We're your #ScienceHearted, local-and-global, animal and food production team.

More profit, fewer pulls.

With CELMANAX™, your cattle get the benefits of multiple feed additives in one consistently high-quality formula.

What are RFCs?

CELMANAX yields highly bioavailable Refined Functional Carbohydrates™ (RFCs™) including:

- **Mannan-oligosaccharides**—short sugar units of mannose
- **Mannose**—a monosaccharide
- **Beta glucans**—sugar units from the yeast cell wall

Our proprietary enzymatic process breaks these down into small, bioavailable units.

Why do RFCs matter?

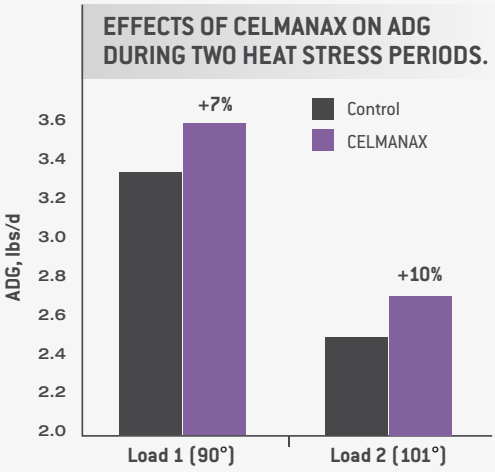
They help animals cope with environmental challenges.

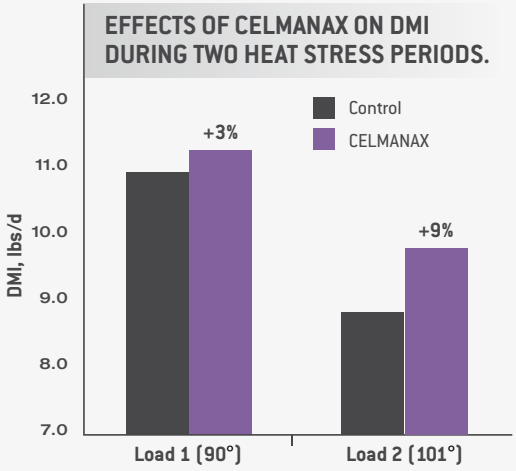
The CELMANAX advantage:

1. Helps prepare the immune system so animals can respond quickly when presented with a challenge.[1,2]
2. Supports optimal rumen fermentation and digestion.
3. Maintains performance even when heat and humidity rise.[1,3]
4. Delivers a recommended dose of A-MAX™ Yeast Culture plus highly bioavailable RFCs.

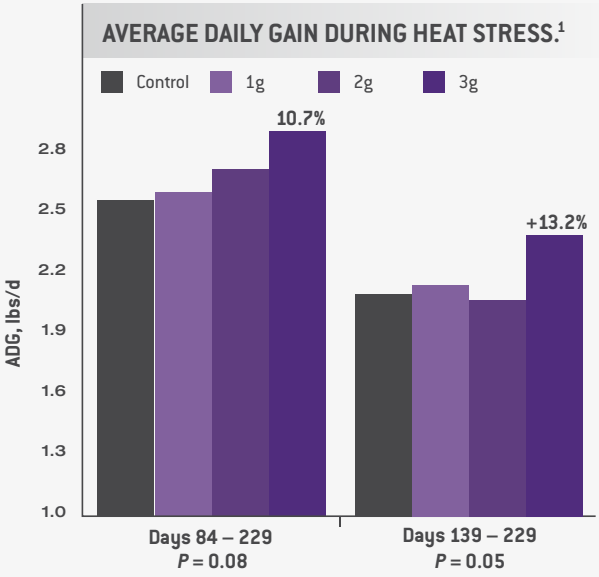
Manage heat stress.

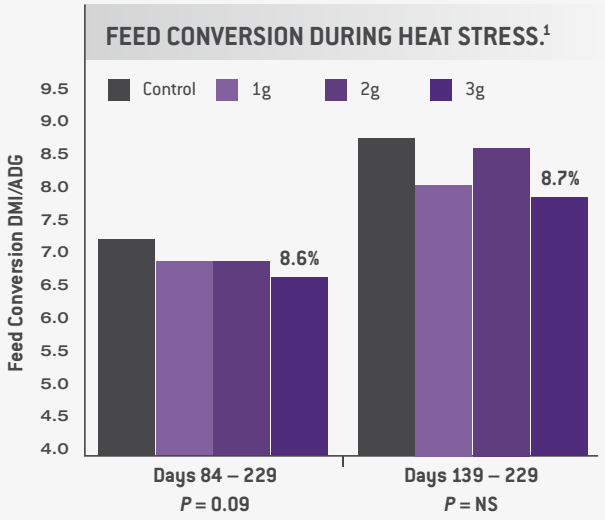
In a study[1] conducted to evaluate the effect of CELMANAX on cattle performance, the heifers fed CELMANAX showed a numeric advantage over the control group for ADG and dry matter intake under heat stress conditions.





In another study[3] conducted at the University of California, Davis, CELMANAX-fed feedlot cattle increased ADG and improved feed conversion even when intense heat stress conditions were indicated by a Temperature Humidity Index (THI) of 80, which occurred during days 139 – 229.



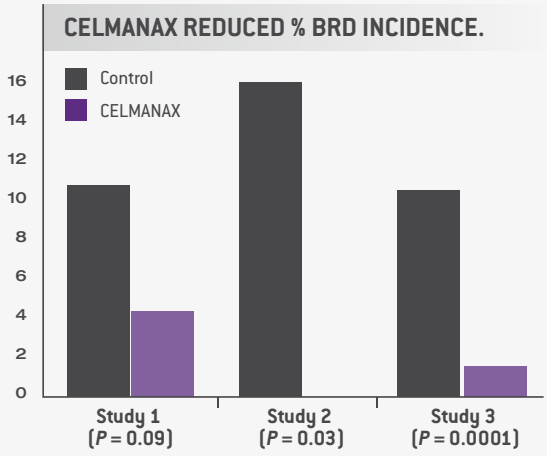


Success in the receiving period.

In a series of university trials[1,4-6] cattle fed CELMANAX demonstrated benefits in the receiving period versus the control.

CELMANAX Receiving Benefits	Study 1	Study 2	Study 3	Study 4
Location	Texas Tech	Oreg. State	Clemson	U of MN
Length of study, Days on Feed (DOF)	35	69	60	34
Replicates	12	7	9	2
Total Animals	237	84	72	440
Morbidity reduced (*P*-value)	0.094	0.03	Not measured	0.0001
ADG increased (*P*-value)	0.08	0.07	0.04	NS
DMI increased (*P*-value)	0.022	NS	NS	NS
% Change in F:G v Control (*P*-value)	-1.6% (NS)	-5.48% (0.08)	-8.9% (0.04)	NS

In multiple receiving cattle studies[1,4,6] CELMANAX fed cattle also experienced fewer cases of Bovine Respiratory Disease (BRD) when compared to the control groups.

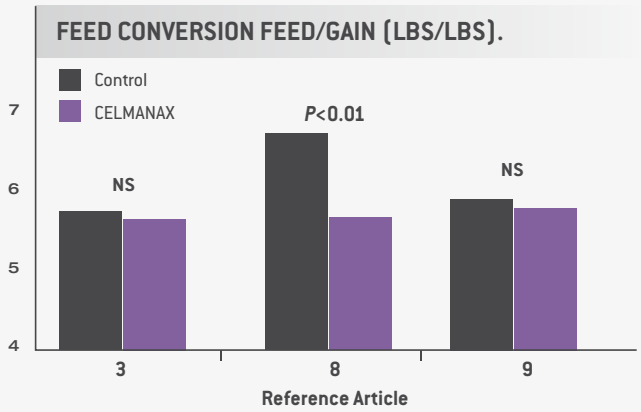


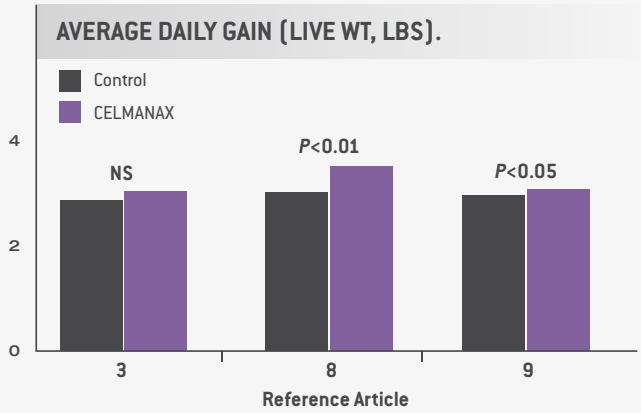
Moldy feed:

CELMANAX helps reduce the negative effects of moldy feeds, allowing cattle to maintain performance even when feed quality isn't at its peak.[7]

The proof is in the research.

In three studies feedlot cattle supplemented with CELMANAX™ saw improvements in average daily gain (ADG) and feed conversion.[3,8,9] One of these trials,[8] conducted at a commercial feedlot in Idaho, demonstrated that finishing cattle fed CELMANAX showed enhanced performance and a reduction in feed costs, resulting in a net return on investment of 8.6 to 1. Due to the higher gains, CELMANAX steers reached finishing weight nearly 14 days sooner than control, and held a 50.7 lb. numerical advantage at harvest.[8]





Recommended feeding rates.*

	BEEF (GRAMS/HEAD/DAY)				BEEF (OUNCES/HEAD/DAY)			
	Adult Cow	Calf	Grower	Feedlot	Adult Cow	Calf	Grower	Feedlot
CELMANAX	28	7	14	18	1	0.3	0.5	0.6
CELMANAX SCP**	3	1	2	2	0.1	0.04	0.07	0.07
CELMANAX Liquid**	14	8	10	9	0.5	0.3	0.4	0.3

*Consult your nutritionist for your optimum feeding rates.
**For conversion purposes 1 ml equals 1 gram.

We're #ScienceHearted and we're here for you.

We're ever-curious farm kids turned nutritional innovators, microbial pioneers and food safety game changers. We use scientific research to unlock the power of nature to create products that focus on you, your animals and worldwide food security. To learn more about CELMANAX ask your nutritionist, veterinarian or ARM & HAMMER™ representative or visit AHfoodchain.com.

1 Ponce CH, Schutz JS, Elrod CC, Anele UY, Galyean ML. Effects of dietary supplementation of a yeast product on performance and morbidity of newly received beef heifers. *The Professional Animal Scientist* 2012;28:618-622. Research Bulletin B-77.
2 Baines D, Erb S. Characterization of Shiga toxin-producing *Escherichia coli* infections in beef feeder calves and the effectiveness of a prebiotic in alleviating Shiga toxin-producing E*scherichia coli* infections. *Irish Veterinary Journal* 2013;66(1):17.
3 Montano M, Plascencia A, Torrentera N, Ware R, Zinn R. Influence of feeding yeast cell wall extract on growth performance of feedlot cattle during periods of elevated ambient temperature. *J Anim Sci* 2013;91:E-Suppl. 2/*J Dairy Sci* 2013;96:E-Suppl.1. Research Bulletin B-84.
4 Silva et al. *Animal* (2018), 12:8, pp 1576–1583.
5 Danielo J et al. Domestic Animal Endocrinology 72 (2020) 106427.
6 Data on file.
7 Baines D, Erb S, Turkington K, Kuldau G, Juba J, Masson L, Mazza A, Roberts R. Mouldy feed, mycotoxins and Shiga toxin-producing *Escherichia coli* colonization associated with Jejunal Hemorrhage Syndrome in beef cattle. *BMC Vet Res* 2011;Jun 3; 7:24. Research Bulletin B-74.
8 Influence of feeding CELMANAX on growth performance of large-frame Angus-cross finishing steers at a commercial feedlot. Research Bulletin B-87.
9 Salinas-Chavira et al. (2015) Asian Australas. *J Anim Sci* 28:1288-1295.