

MIN-AD increased milk yield by 2.5, 4.7, and 3.6 lbs/day in three recent trials. Consistent results like these require consistent buffering and mineral availability.

MIN-AD is a unique, natural feed supplement that is both a buffer and a source of magnesium and calcium. Backed by over 40 years of research and use, you can have confidence in the benefits MIN-AD brings to your dairy operation.



A Quality Product

Quality assurance is critical for the feed industry. From special mining techniques that eliminate contamination, to rigorous inspection and cleaning procedures for our carriers, we ensure you receive a quality product. MIN-AD is also certified free of dioxins and heavy metals and has been listed by OMRI for use in production of organic food.

MIN-AD is the specialty mineral supplement backed by research and quality testing. Ask for it by name!



MIN-AD

Toll-free: 1.888.848.8178
Web site: www.min-ad.com



Our Winnemucca facility is certified under the AFIA Safe Feed/Safe Food program.



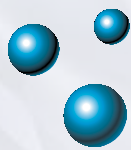
MIN-AD –

A proven and trusted mineral source for your cows.



MIN-AD[®]

Adds Nutritional Advantages



MIN-AD

Adds Nutritional Advantages

Mineral Availability

MIN-AD has been a source of Mg and Ca in dairy rations for over 40 years. Ca and Mg ions are released when MIN-AD neutralizes acid in the rumen and abomasum.

In a 2010 Kansas State University trial with heifers, MIN-AD increased serum Mg from depressed levels to over 2 mg/dL. And, in a 2009 trial on a commercial dairy in Kansas, MIN-AD increased serum Ca from 8.1 to 8.4 mg/dL and Mg from 2.0 to 2.2 mg/dL when it replaced high quality MgO and limestone.

Mg Solubility and Buffering

Magnesium oxide is a common source of supplemental Mg used in dairy rations, but there is considerable evidence that there are big differences in the bioavailability of MgO from different suppliers. For example, the table on the next panel shows the variability in the % Mg solubilized in a pH 2 solution after 2 hours. On average, only 35% of the acid was neutralized relative to the amount expected when all of the MgO neutralizes acid. By comparison, at least 90% of MIN-AD consistently solubilizes during the same test.

Sample ID	Listed Mg %	% Mg solubilized
MgO 1	56	37.9
MgO 2	58	42.1
MgO 9	54	36.1
MgO 10	Unknown	61.5
MgO 3	51	32.3
MgO 4	58	17.1
MgO 5	54	36.1
MgO 6	54	23.6
MgO 7	56	24.3
MgO 14	54	49.2
MgO 8	56	24.8
Average	55	35.0
MIN-AD	12	93.0

Realize the Benefits

A 50/50 blend of MIN-AD and sodium based buffer resulted in superior performance than a straight sodium buffer in three trials. Because of its Mg and Ca content, you can reduce your MgO and limestone usage. This frees up ration space and provides a more reliable Mg source as shown in the example below:

	Inclusion	Mg	Solubility	Soluble Mg
MIN-AD	4 oz	12%	90%	0.432 oz
MgO	1 oz	54%	35%	0.189 oz

Ask your nutritionist to make MIN-AD part of your buffer and mineral program, and realize the benefits:

- Increased milk production
- Less acidosis
- Lower cost
- Smaller supplement size