



**Abstract for Poultry Science Association Annual Meeting, St. Louis, Missouri  
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**Live performance and energy uplift effects of 0.5% AZOMITE<sup>®</sup> Feed-Grit (versus 0%) were evaluated in a series of broiler chicken feeds with increasing levels of metabolizable energy (made equicaloric through addition of soy bean oil to AZOMITE<sup>®</sup> diets) under disease stresses in floor pens.** J. L. McNaughton<sup>1</sup>, D. Fodge<sup>2</sup>, W. W. Emerson<sup>3</sup> and D. M. Hooge<sup>\*4</sup>, <sup>1</sup>AHPharma Research, Inc., Salisbury, MD, USA, <sup>2</sup>DF International, Inc., Rockville, MD, USA, <sup>3</sup>Azomite Mineral Products, Inc., Kansas City, MO, USA, and <sup>4</sup>Hooge Consulting Service, Inc., Eagle Mountain, UT, USA

A hydrated sodium-calcium aluminosilicate (AZOMITE<sup>®</sup> Feed-Grit, Azomite Mineral Products, Inc., Kansas, City, MO) from a volcanic ash and ancient seabed deposit in Utah was included at 0 or 0.5% in a series of broiler diets with increasing metabolizable energy (ME) to evaluate live performance and energy uplift effects. The product typically contains 75 of 92 naturally occurring elements and is listed by OMRI<sup>®</sup> for use in organic feeds. Mash feeds were used in 3 phases (starter 0-21 d, grower 21-35 d, and finisher 42 days) with respective metabolizable energy levels of 3,086, 3,142, and 3,197 kcal ME/kg (1,400, 1,425, and 1,450 kcal ME/lb) and +22, +66, or +132 kcal ME/kg (+10, +30, or +60 kcal ME/lb). In the 0.5% AZOMITE<sup>®</sup> series of diets, soybean oil was added to make formulas equicaloric with their respective 0% control diets. A total of 4,320 straight-run broiler chicks were randomly allocated to provide 54 chicks/floor pen and 10 replicate pens each for the 8 treatments (4 with 0% and 4 with 0.5% AZOMITE<sup>®</sup>). Stocking density was 0.0743 m<sup>2</sup> (0.8 ft<sup>2</sup>)/bird. A live coccidia vaccine was administered at hatch. Bacitracin methylene disalicylate (55 ppm) was used in all diets. Challenges were given with *Eimeria acervulina* (100,000 oocysts/bird) and *maxima* (50,000 oocysts/bird) on d 5 and with pathogens *E. coli* (10<sup>6</sup>/bird), *Salmonella* spp. (10<sup>4</sup>/bird), *Listeria monocytogenes* (10<sup>6</sup>/bird), and *Campylobacter jejuni* (10<sup>4</sup>/bird) by oral gavage on d 40. The 42-d BW averaged 2.545 kg for the four 0% and 2.578 kg for the four 0.5% AZOMITE<sup>®</sup> dietary treatments ( $p=0.056$ ). The 0-42 d mortality-adjusted feed conversion ratio averaged 1.831 for the four 0% and 1.813 for the four 0.5% AZOMITE<sup>®</sup> treatments ( $p=0.002$ ). The AZOMITE<sup>®</sup> at 0.5% was estimated to contribute 7,910 kcal ME/kg (3,588 kcal/lb) product in starter (0-21 d), 10,154 kcal ME/kg (4,604 kcal/lb) product in grower-finisher (21-42 d), and 9,711 kcal ME/kg (4,405 kcal/lb) product overall (0-42 days). It was concluded that AZOMITE<sup>®</sup> (a noncaloric ingredient) at 0.5% of diets increased effective dietary ME level by 22.02 kcal ME/kg (ME/lb feed from 0-42 d).