



Founded as a nutritional ingredient manufacturer in 1961 by R.W. and Mary Nelson, Kemin Industries, Inc. is a privately owned company headquartered in Des Moines, Iowa (USA). Kemin is a producer of ingredients and inventor of processes that provide nutritional and health solutions for humans and animals.

In today's increasingly health-conscious world, livestock health is far more than just a responsibility – it's an opportunity. At Kemin, we are committed to developing the most advanced nutritional solutions available today. We'll help you deliver optimal well-being – all the way through the food chain.

WWW.KEMIN.COM



HEALTHY SOLUTIONS
TOTAL NUTRITION



BALANCED— FROM THE INSIDE OUT

CLOSTAT® Active Microbial.

For ideal gastrointestinal balance.



CLOSTAT contains a proprietary, patented strain of *Bacillus subtilis*, PB6. PB6 is a unique, naturally occurring spore-forming microorganism. Kemin identified and selected the specific strain of PB6 because it secretes an active substance that helps maintain the balance of microflora in the intestinal tract of poultry and livestock.

Features

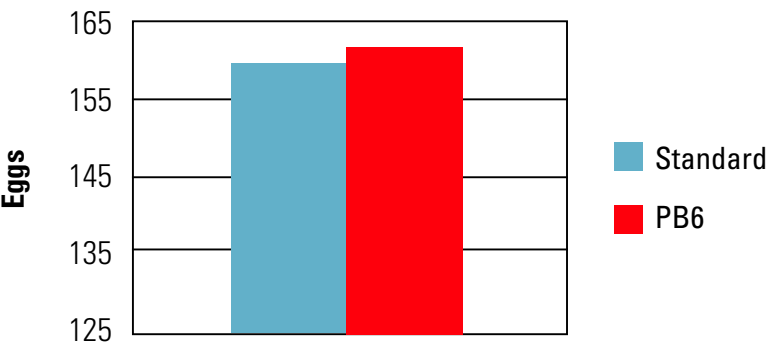
- Heat resistant under normal pelleting conditions
- Stability for more than 12 months
- Compatible with organic acids and most antibiotics
- Inhibitory action against pathogenic organisms (U.S. Patent 7,247,299).

Benefits

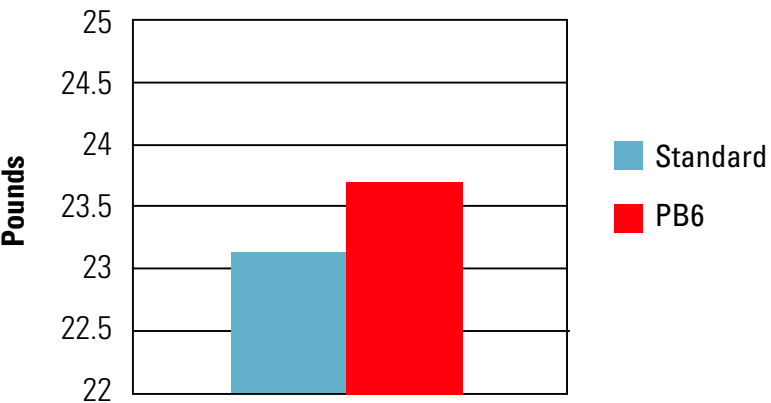
- Positively impacts gut microflora
- Improves gut health
- Contributes to the overall well being of poultry and livestock



Hen-Housed Eggs



Egg Weight per Hen-Housed



STRESSORS AFFECT EUBIOSIS

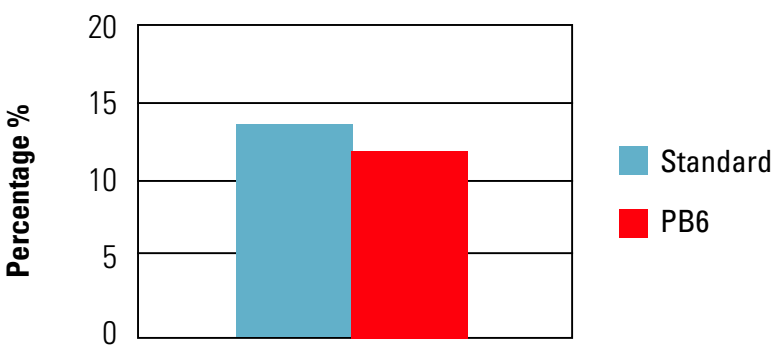
The poultry gut contains more than 400 strains of bacteria – beneficial bacteria such as *Lactobacillus* and *Bifidobacterium spp.* and pathogenic bacteria such as *Escherichia coli*, *Clostridium perfringens*, *Salmonella*. Under normal circumstances, there is equilibrium between the beneficial and pathogen bacteria called eubiosis. Stressors such as heat, humidity, overcrowding, and even antibiotics may kill beneficial bacteria causing an imbalance in the gut microflora. The result may be decreased performance, increased morbidity and mortality.



Bacillus subtilis PB6 was added to commercial laying Hy-Line W-36 hens for 2-3 weeks prior to the induction of molting and for an additional 34 weeks during the second-cycle lay.

Results suggest the use of *Bacillus subtilis* PB6 will result in improved production of hen-housed eggs and decreased mortality in second cycle Hy-Line W-98 layers.

Total Mortality



*Influence of Bacillus subtilis PB6 (CloSTAT) on the performance of Hyline W-98 layers from 68 to 102 weeks of age. M.Elliot1, R. Myers2, A. Lamptey2, and A. G. Yersin*2, 1A&E Nutrition Services, LLC, Lititz, PA, 2Kemin AgriFoods, Des Moines, IA. J. Anim. Sci. Vol 93, E-Suppl. 1/Poult. Sci. page 122*