Introducing the first clean label breakthrough against *E. coli* and *Salmonella*
New DefenStat™ is the ONLY clean label ingredient for raw meat and poultry that addresses the three systemic failures leading to E. coli and Salmonella outbreaks, in a single intervention product.

Inhibits Pathogen Proliferation
DefenStat™ delivers significant intervention of proliferation in processing as well as pathogen growth known to occur in distribution.

Reduces Cross-Contamination Risks
Even with careful handling and storage, mistakes can be made in food preparation, presenting multiple opportunities for cross-contamination. Utilizing DefenStat™ in uncooked meat and poultry during the processing phase delivers an extra layer of defense, should proper safeguards not be adhered to further down the product cycle.

DefenStat™ application reduces potential for cross-contamination greater than 90%.

Enhances Pathogen Susceptibility To Heat
E. coli and Salmonella present in raw meat and poultry can be eliminated if cooked to the proper temperature. However, bringing the product to that heat level is not assured without the use of a thermometer. Utilizing DefenStat™ can significantly reduce pathogen survival known to occur in non-HACCP (home) cook by making the organisms more susceptible to destruction by heat.

An Industry Breakthrough That Redefines the Category
DefenStat™ is a response to 21st century demand among food industry professionals and consumers for more natural ingredients, including those supporting food safety and foodborne disease intervention. DefenStat™ stands alone as the first and only entirely clean label antimicrobial that defends against the effects of E. coli and Salmonella proliferation and survival.

- First of its kind DefenStat™ sets the industry standard in food safety
- Contains no synthetic or artificial ingredients
DefenStat™ is a tremendous achievement in mitigating the effects of E. coli and Salmonella contamination

Overall food safety and more specifically the prevention of foodborne illness are priorities for government agencies and food industry professionals alike. In addressing these concerns, Newly Weds® Foods has demonstrated its capabilities in food safety and functional ingredient technology with the development of DefenStat™. Processors, food retailers, foodservice operators and consumers will all benefit from its broad use and application in raw meat and poultry products.

- Groundbreaking advance in the inhibition of E. coli and Salmonella
- Responsive to market demand for more consumer friendly ingredients and clean label products
- All ingredients "safe and suitable" and GRAS**
- Does not affect finished product color, texture, flavor or overall quality
- Easy-to-use liquid can be applied directly to ground products and to whole muscle meats by marination

Pathogen Proliferation and Destruction

Salmonella in Ground Turkey: High Inoculation with DefenStat™ vs. Low Inoculation Control

[Graph showing comparison between control, low inoculation, and high inoculation with DefenStat™]

DefenStat™ stops pathogen growth at non-GMP temperatures and promotes increased organism destruction with enhanced heat susceptibility.

Pathogen Cross Contamination

Reduction (vs. control) in Pathogens Transferred from the Surface of Whole Muscle Chicken and Beef to Kitchen Sponge with DefenStat™

[Graph showing reduction percentages for Chicken and Beef]

A USDA risk assessment attributed roughly 4% Salmonella in cooked chicken to cross-contamination in the kitchen. *DefenStat™ reduced pathogen transfer 90+% in both chicken and beef. Based on independent/3rd party lab results.

**Generally Recognized As Safe by FDA
IsoStat™
Products Group

Look to our broad portfolio of food safety products and functional ingredients that deliver exceptional performance from shelf-life extension to pathogen inhibition.

DefenStat™ – Clean label ingredient for use in raw meat and poultry products providing protection against E. coli and Salmonella through limitation and destruction. Inhibits pathogen proliferation, reduces potential for cross-contamination and enhances the organism’s susceptibility to heat.

NatureGuard™ – Rosemary extract with antioxidant properties for shelf-life extension benefits. Newly Weds® Foods’ proprietary Supercritical Fluid Extraction process uses no chemical solvents which results in a cleaner, higher-purity product with more consistent quality.

Ional™ Line – Sodium or potassium citrate buffered to a pH of 5.6. Dry, free-flowing powder acts as a general antimicrobial or, with Diacetate added is effective against Listeria. Can also provide color stability, yield enhancement and chelation in water brine systems.

Natureln™ Line – Clean label liquids based on buffered and reacted vinegar or in combination with buffered and reacted lemon juice concentrate. Acts as a general antimicrobial and is effective against Listeria. Can be added directly to the product surface or in brines for marination.

DV™ – Clean label antimicrobial product of concentrated dry vinegar, in a free-flowing powder form. This form allows for greater application flexibility and can be used in brines for marination, as a surface treatment, as a direct addition or even blended into seasonings. Acts as a general antimicrobial and is effective against Listeria.

TenderIn™ Line – Clean label phosphate alternative based on lemon juice concentrate. Can be used in brines for marination, as a surface treatment, as a direct addition or even blended into most seasonings.

Myosol™ Line – Potassium-based liquid phosphates formulated for instantaneous reactivity and solubility in cold water.

AdvaneStat™ Blends – Customized blends of ingredients including antimicrobials, antioxidants, other functional products and/or flavors. Combines general antimicrobial capabilities, pathogen inhibition, color stability and water retention for an overall improvement on shelf life.