



Technical Bulletin

Information from Phibro Technical Services

Yeast Fractions for Poultry

Yeast Fractions for Poultry is a proprietary combination derived from specific sources of yeast extract and brewers dried yeast manufactured from a strain of *Saccharomyces cerevisiae*. Yeast extract and brewers dried yeast ingredients are known to contain yeast cell walls and other nucleotides/yeast derivatives, that include mannan-oligosaccharides and beta-glucans. It is designed to be fed to all classes of poultry. Yeast Fractions for poultry helps support gut health which can lead to a reduction in pathogenic agents.

Mode of Action

- An important initial event in bacterial pathogenesis is the adherence of bacteria via their surface lectins to host intestinal cells
 - Infections are initiated only after the microorganism has first adhered to the host cell surface
 - If this initial adherence can be inhibited, so can the subsequent infection
 - The feeding of oligosaccharides is an anti-adherence strategy
- (Shoaf-Sweeney and Hutkins 2008)

Factors that Drive Efficacy

It is well accepted that the cell wall structures (mannans and glucans) can be the primary driver of pathogen immobilization (Posadas et al., 2017)

Industry has experienced a high level of variability in the performance of various oligosaccharides

Phibro has evaluated more than 100 samples of various oligosaccharide products to understand the basic carbohydrate structure (mannan and b-glucan branching)

Phibro has developed an *in-vitro* protocol that allows us to identify the best performing material and incorporate them into the Cellerate Yeast Solutions® product portfolio



HEALTHY ANIMALS. HEALTHY FOOD. HEALTHY WORLD.®

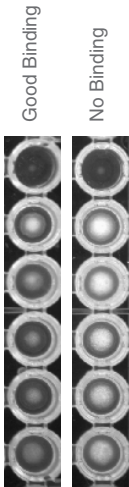


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Agglutination Assay for Salmonella

Agglutination (clumping) occurs when the pathogen binds to the yeast



Negative Control (salmonella only)

Positive Control (yeast only)

Deactivated Control (inhibited yeast)

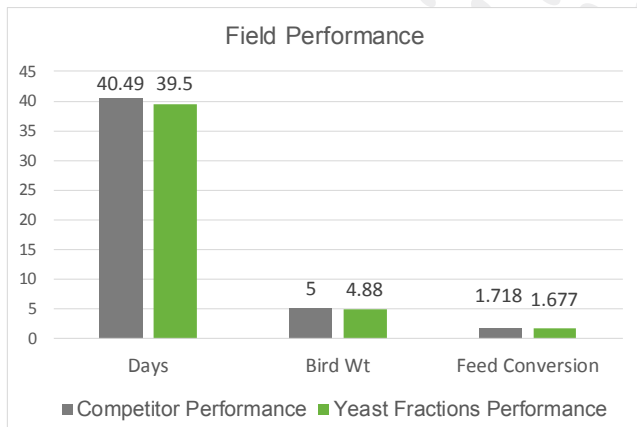
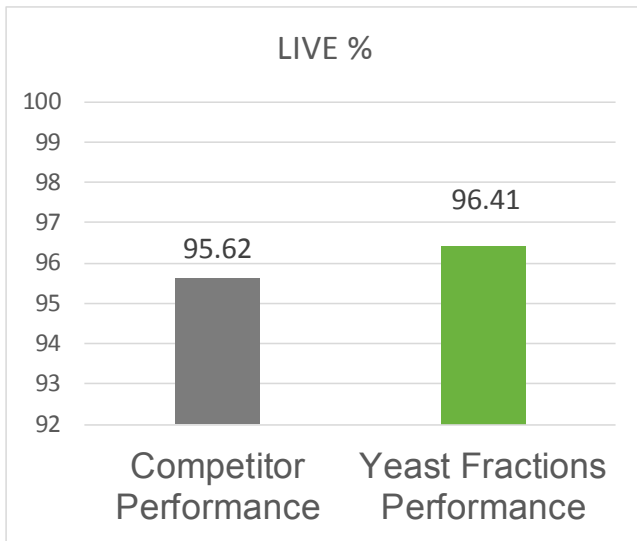
Salmonella (1:10) + Yeast

Salmonella (1:5) + Yeast

Salmonella (Undiluted) + Yeast

- The negative control contains no yeast (no mass in the bottom of the tube)
- Positive control shows the full dispersion of the yeast
- Deactivated control shows nearly full dispersion of the yeast
- Bottom three samples show binding as indicated by the tightening of the mass in the bottom of the tube

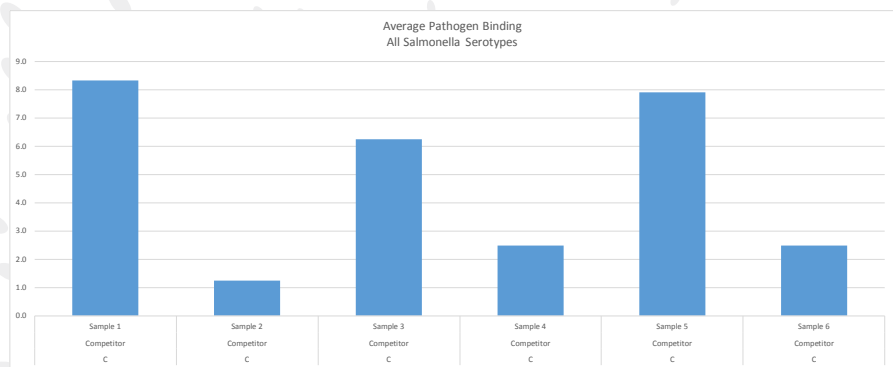
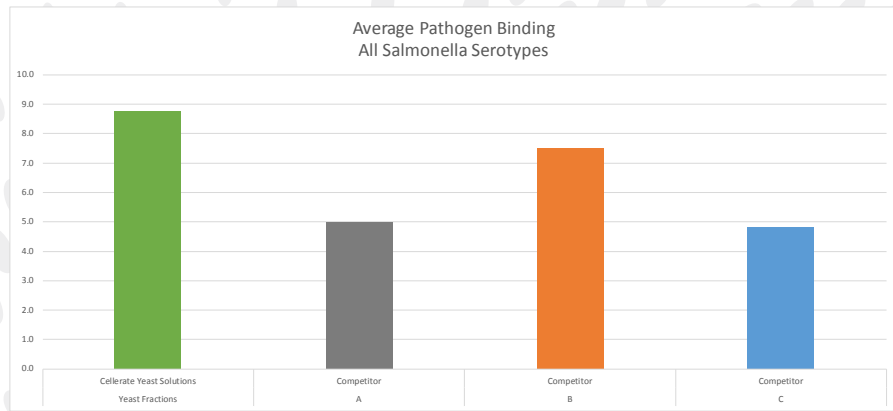
In Vivo Pathogen Binding*



*External Farm Trial 2017

In Vitro Pathogen Binding**

- Yeast Fractions for Poultry is specifically formulated to help support gut health, binding and consistent performance
- Some competitive materials are not as effective at binding
- The six samples tested from Competitor C show the variable performance of some product lines



**Internal Phibro Research 2017

This information has been prepared for industry technical professionals only and may be presented and discussed with them upon request.



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