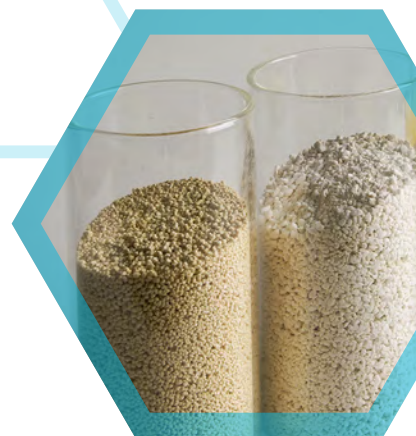


EMPIRICAL Ingredients Unlocked

ADM & Enzymes

EXPERIENCE :: EXPERTISE :: EXECUTION



EMPIRICAL NSP MIXER

- Multi-enzyme, non-starch polysaccharide (NSP) complex for inclusion in swine and poultry diets
- Empirical™ NSP enables swine and poultry to better utilize the fibrous components of feedstuffs by improving their digestibility and availability
- Contains high levels of a non-enzymatic protein to enable greater energy release
- Stable in a range of customized premixes



Numerous studies over the past two decades have shown that the efficiency with which swine and poultry can utilize fibrous grains and DDGS is often reduced by the presence of anti-nutritional factors, such as non-starch polysaccharides (NSPs) in these feedstuffs. These NSPs are commonly comprised of arabinoxylans and β -glucans. Inadequate digestion of NSPs could potentially increase the viscosity of digesta in the animal's gut. Increased viscosity reduces the efficiency of nutrient absorption in the gut, leading to inefficient feed conversion, higher gut microbial activity, and excretion of more waste.

The inclusion of fiber-digesting enzymes (NSPases) that breakdown anti-nutritional NSPs in the diet provides the following beneficial effects:

- Reduces intestinal viscosity
- Enables more efficient nutrient absorption
- Helps maintain the correct balance of microbes in the gut
- Reduces excretion of waste into the environment

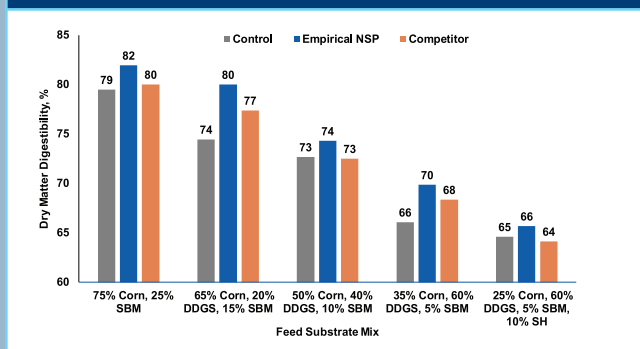
Introducing ADM Empirical™ NSP enzyme

ADM's Empirical NSP (non-starch polysaccharide) Mixer delivers a multi-enzyme complex that allows greater formulation flexibility to utilize opportunity ingredients containing higher amounts of NSPs. It enables swine and poultry to better utilize the fibrous components of feedstuffs by improving digestibility and availability. ADM has multiple versions of the enzyme so we can add inclusions to premixes or other feed applications, (including organic) at a low inclusion rate.

Key Benefits

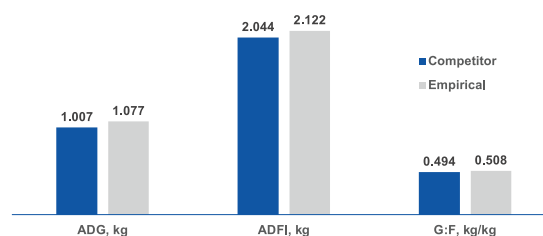
- Targeted to enhance swine and poultry diets for better utilization of high-fiber ingredients, such as hulls, middlings, DDGS, etc
- Contains a multiple enzyme complex for improved efficacy over a wide range of feedstuffs
- Allows greater formulation flexibility which expands the portfolio of cost-saving ingredients that can be utilized in diets

In Vitro Enzyme Comparison 1-3% Improvement over top NSP Competitor



Just how beneficial is Empirical to the growth of your stock?

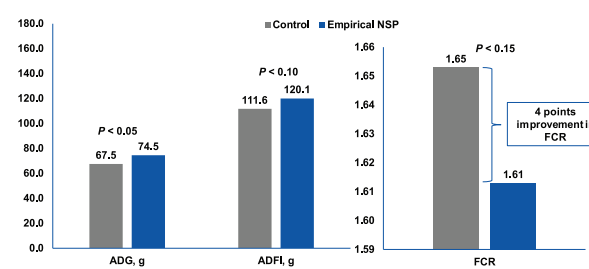
Growth Performance in Growing Pigs (0-21d; 32-55kg) 7% Improvement in ADG



S15202; data are averages from 16 replicate pens

Empirical NSP supports growth performance in diets that may vary in feed composition.

Growth performance in Broilers (0-42 d) 4 Points Improvement in FCR



P14201

Partner With ADM for all your feed solutions

As part of one of the world's largest agricultural processors and food ingredient suppliers, we have access to and insights from dedicated scientists and state-of-the-art facilities to ensure we deliver innovative and profitable opportunities.

For more information on this latest enzyme innovation, contact:

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