

# Quantum® Blue: A revolution in feed performance



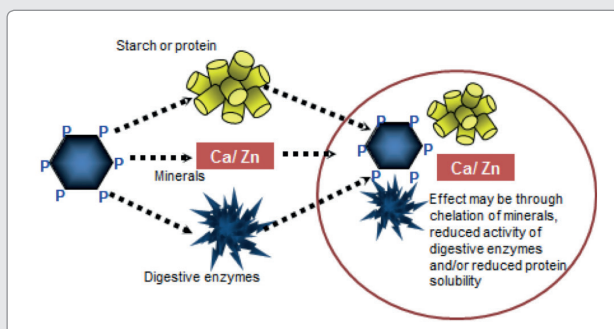
## Phytate is costing the global feed industry

The costs associated with the anti-nutritional influence of phytate on nutrient utilisation and feed efficiency may be as much as \$2 billion/year in lost performance.

Phytases currently unlock considerable value for the global feed industry but much of the value beyond phosphorus (P) is not captured. Phytate is estimated to continue to cost the industry up to \$7 USD per tonne of feed in lost performance.

### Phytate anti-nutritional effects

Phytate decreases feed digestibility by forming insoluble complexes with nutrients and digestive enzymes or reduce nutrient solubility.



- Makes Calcium (Ca) and P less available for absorption
- Reduces protein digestibility
- Causes hyper-secretion of mucin leading to endogenous loss of amino acids and energy
- Suppresses amylase activity and depresses carbohydrate digestion

**Removing the bulk of phytate from the diet could bring additional performance benefits and cost savings.**

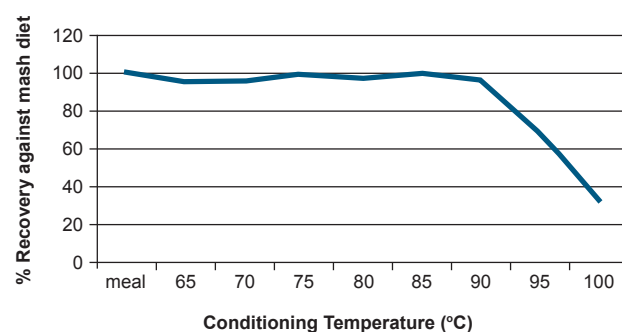
**quantumblue**  
PERFORMANCE BEYOND PHYTASE

Quantum® Blue is an enhanced *E. coli* phytase which has been specifically optimised to degrade the phytate found in plant-based feed ingredients for monogastric diets.

### Unrivalled intrinsic thermostability

Quantum® Blue is an intrinsically thermostable phytase, which is non-coated, ensuring quick release in the animal. Tested in commercial feed mills with excellent recovery, Quantum® Blue is proven to withstand the rigours of feed processing.

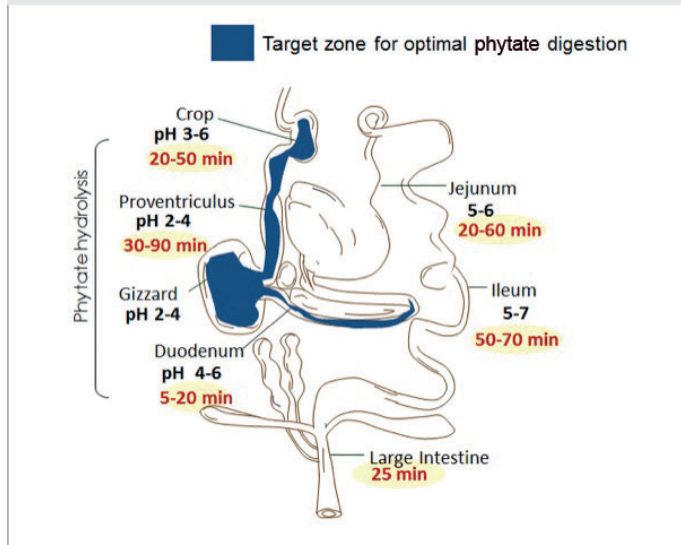
#### Average of 5 recovery tests run at a Danish Institute



## Quantum® Blue gets to the site of action intact

A narrow window of opportunity exists within the gastrointestinal tract where phytate is soluble and easily hydrolysed (stomach or gizzard).

### Quantum® Blue delivers high and consistent activity for optimal phytate degradation at gastric pH



## Quantum® Blue is optimised for maximum phytate destruction

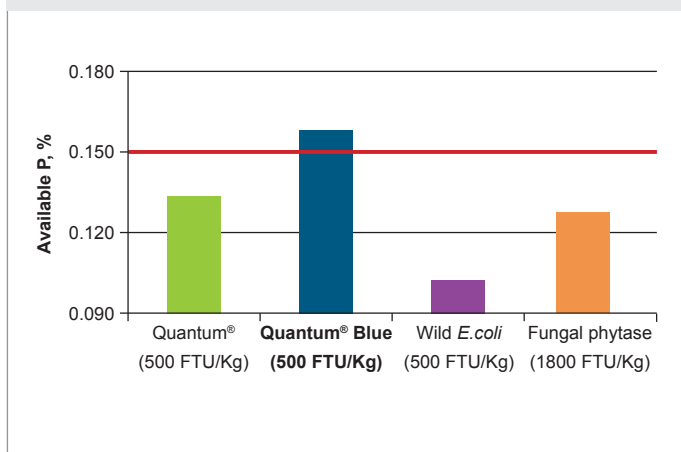
Quantum® Blue has high affinity towards phytate, ensuring that even in diets with low phytate levels, it works with full efficacy to release nutrients that would otherwise be bound to phytate.

Quantum® Blue maintains high activity at low substrate concentration for complete phytate destruction.

## Quantum® Blue delivers more phosphorus, more consistently

500 FTU/kg of Quantum® Blue gives you at least 0.15% available P more consistently\*.

### Available P release calculated based on 18 days old broiler performance and bone parameters

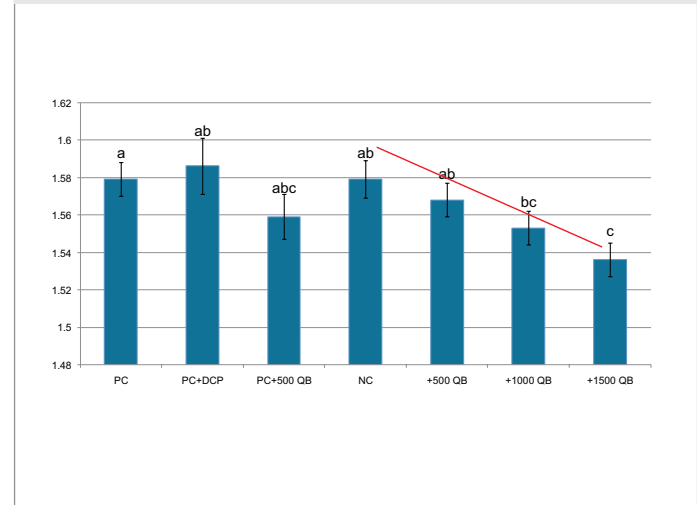


\*Based on 90% confidence limits

## Quantum® Blue unlocks more value from feed

Quantum® Blue has been proven to improve poultry feed conversion efficiency. A composite of five broiler trials showed a 3-4 point improvement in body weight corrected feed conversion, equating to cost savings up to \$7 USD per tonne of feed.

### Composite analysis of 5 trials (n=29): Body weight corrected FCR (d 0 to 42; n = 25), index 25



## A revolution in feed performance

Optimised for maximum phytate destruction, Quantum® Blue unlocks more value for your business than any other phytase.

- More complete phytate destruction
- Greater phosphorus release
- Unrivalled intrinsic thermostability
- Proven additional feed efficiency value



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