

Why Use Feed Enzymes?

Danisco Animal Nutrition

- Break down anti-nutritional factors present in feed ingredients
- Increase availability of starch and protein enclosed in fibre-rich cell walls
- Break down specific bonds in feed ingredients
- Supplement the endogenous enzymes of young animals

The Benefits of Feed Enzymes

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- Enhanced production economics resulting from improved nutrient digestion
- Greater flexibility of ingredient use by the feed manufacturer
- Increased uniformity in animal performance
- Less animal waste and reduced litter problems

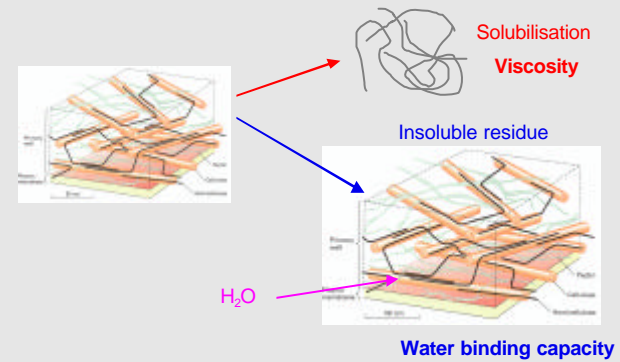
How Does Feed Enzymes Work

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- Disrupts plant cell walls in feed
 - Increased nutrient availability
- Partially degrades fibre polysaccharides
 - Reduced intestinal viscosity
- Counteracts anti-nutritional properties of feed ingredients
 - Decreased nutritional disorders
- Supplements enzyme systems of young birds
 - Improved digestibility in young birds

Actions of cell walls during the digestion processes

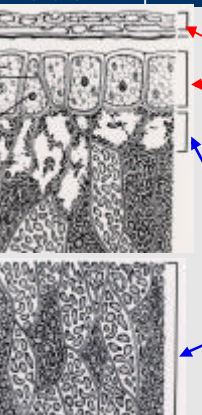
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How does Danisco Xylanase work?

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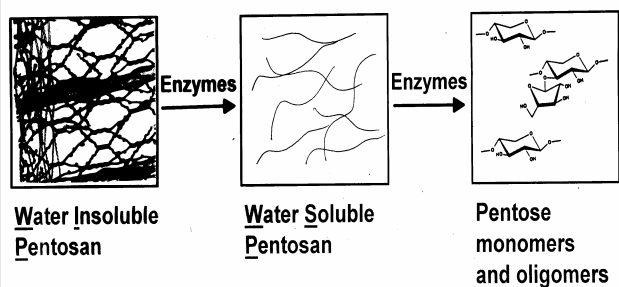
Solubilisation of **insoluble** fibre, depolymerisation of solubilised fibre and enable **access to encapsulated nutrients**

Solubilisation of soluble fibre and depolymerisation = **reduced viscosity**

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Actions of cell walls during the digestion processes

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Water Insoluble Pentosan → Enzymes → **Water Soluble Pentosan** → Enzymes → **Pentose monomers and oligomers**

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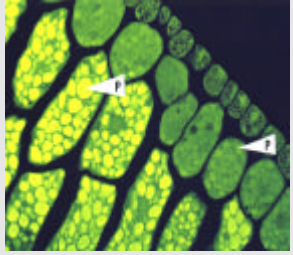
Avizyme® - Protease

An additional benefit

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Targeting Soya but will also work on grains and other protein meals:

- *Storage Proteins*
 - Glycinin
 - Beta-conglycinin
- *Antinutritional*
 - Trypsin Inhibitors
 - Lectin



P = protein bodies

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Feed Enzymes – Mode of Action

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Fibre degrading enzymes (eg xylanase)	<ul style="list-style-type: none"> •open up cell walls •reduce digesta viscosity •improve digestion •increase feed intake •reduce microbial fermentation •reduce endogenous losses
Proteases	<ul style="list-style-type: none"> •degrade storage protein •improve digestion •degrade antinutrients •reduce endogenous losses
Amylases	<ul style="list-style-type: none"> •degrade starch •improve digestion

Danisco Enzymes
Great value - No surprises

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