Enzymes for Wheat Conditioning

What’s New Session - 7th November 2013
IAOM Mideast & Africa
Sousse Tunisia
Ralf Neumann
1907  
Röhm and Haas founded. Invention of OroponTM for the leather industry.

1934  
Invention of the first enzyme for the food industry: ROHAPECT®

1958  
First enzyme for the milling and baking industry launched: VERON®

1999  
ABF acquires Röhm Enzyme which is renamed to AB Enzymes

2005  
AB Enzymes restructures to achieve a global leadership position

2007  
Global distribution arrangement for feed with ABF sister company AB Vista

2009  
Capacity expansion at manufacturing site in Finland

2008  
Completion of the VERON®, ECOSTONE®, ROHAPECT® and ROHALASE® product ranges

2009  
Capacity expansion at manufacturing site in Finland

2010  
Further expansion of the BIOTOUCH® product range, and launch of Veron® xTender

2012  
Enzymatic Wheat Tempering launched under VERON®
Conducted global trials on five continents

AB Enzymes is partnering with various milling institutes in Germany / France and technology providers.
ENZYMATIC WHEAT TEMPERING

Would it be interesting to achieve....?

Tempering Time

First break flour

First break ash

That is what we have observed on hard wheat around the world!
The physical change of the wheat will influence the milling property.

Non Starch Polysaccharides will be transferred from non water soluble into water soluble, degraded into lower sugars and by this changing the physical structure.

The enzyme acts mostly upon the cellulosic structural components of the bran down towards the aleurone layer.

Tempering Time can be reduced!
STREAMS, 1<sup>st</sup> BREAK

**1st Break, Ash**

- **Graph Title**: 1st Break, Ash
- **Axes**: Ash, percent on the y-axis and Time, hours on the x-axis
- **Data Points**: Cntrl #1 and Enzyme

**1st Break, Flour**

- **Graph Title**: 1st Break, Flour
- **Axes**: Flour, percent on the y-axis and Time, hours on the x-axis
- **Data Points**: Cntrl #1 and Enzyme
ENZYMATIC WHEAT TEMPERING SET UP

Different tempering systems at mills

Dosatron dosing pump

Enzyme: conical mixing tank

Grain dampener
Application guidance

The roller gap settings are still the main factor for increasing the extraction grade (with and without enzyme).

The enzyme tempering is just responsible for an easier separation of endosperm and bran despite the shortened time.

The easier separation allows to increase the amount of mechanical extraction (which normally increases ash content) without the increase in ash.

Without adjusting the mill setting it is unlikely to get the full potential effect by only applying the enzyme to the grain.
Enzymatic Wheat Tempering - A tool to increase your milling value

- Combines millers craftsmanship and biotechnology
- Tempering time down
- Increase first break flour at reduced ash
- Low hardware investment cost
The combination of science and craftsmanship is powerful - we call this ‘The Art of Enzymes’

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THANK YOU VERY MUCH FOR YOUR ATTENTION!