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Dyadic[®] Xylanase 2XP CONC **PRODUCT #532**

(For Consideration in Food, Brewing and Animal Feed Applications)

I. INTRODUCTION:

Dyadic Xylanase 2XP CONC is a concentrated powder acid-neutral endo-1,4- β -D-xylanase (E.C. 3.2.1.8) product from *Trichoderma longibrachiatum* (formerly *Trichoderma reesei*). This is a non-hazardous, food grade, and Kosher certified product. Products of this origin are used world-wide as processing aids in baking, starch-gluten separation, alcohol fermentation and animal feed. Its high level of xylanase / beta-1,3-1,4-glucanase / cellulase allows it to break down non-starch polysaccharides (NSP) including arabinoxylans and beta-glucans in wheat, rye, barley, triticale and other certain cereals. It should be noted that without such enzyme process aids the use of complex small grains can result in problems such as reduced starch utilization.

II. PHYSICAL PROPERTIES:

Appearance:	Off-white powder (Color does not affect or reflect activity)	
Odor:	Slight fermentation odor.	
pH (1% soln):	4.5 \pm 1.0	
Guaranteed Activity:	Xylanase	90,000 to 110,000 Units/g
Side Activities (typical):	Beta-Glucanase	30,000 to 36,000 Units/g
	Cellulase	115,000 to 140,000 Units/g
Additional Side Activities:	pectinase, mannanase, xyloglucanase, laminarase, β -glucosidase, β -xylosidase, α -L-arabinofuranosidase, amylase, protease	

III. PRODUCT CAPABILITIES:

When run as directed in this bulletin, **Dyadic Xylanase 2XP CONC** can be utilized to accomplish the following:

1. Decrease the viscosity of xylans, arabinoxylans and β -glucans from wheat, barley, and other small complex grains.
2. Break down complex carbohydrates within plant cell walls to increase utilization of wheat, barley, and other small complex grains.
3. Include higher rates of lower quality, lower cost grains to reduce total costs.

IV. PROCESSING CONDITIONS: GENERAL

The use of an enzyme concentrate requires special handling and measuring considerations due to its low usage rate compared to the total quantity of substrate treated:

1. Dilution of the concentrate by an enzyme distributor or end user at a rate of 1:10 to 1:20 if needed.
2. Inclusion of the diluted or concentrated enzyme product into the brewing, food, or animal feed process.
3. The recommended dosage of the **Dyadic Xylanase 2XP CONC** is between 6 and 150 grams/metric ton of treated substrate. Please contact your Dyadic representative for additional dosage recommendations.
4. In analytical tests the maximal enzyme activity is displayed at temperature of 40°C to 57°C and pH of 4.2 to 6.5.

V. STORAGE CONDITIONS / ACTIVITY:

Dyadic Xylanase 2XP CONC has less than a 10% activity loss after 12 months when stored at 25°C (77°F) out of direct sunlight and in the original, closed container (protect from humidity). **Dyadic Xylanase 2XP CONC** also has less than a 10% activity loss after 6 months when stored at 43°C (110°F).

VI. INACTIVATION:

Dyadic Xylanase 2XP CONC can be inactivated by raising the pH above 8.0 or the temperature above 90°C or a combination of the two.

VII. PACKAGING:

Dyadic Xylanase 2XP CONC is packaged in 25 kg or 75 kg fiber drums.

VIII. TECHNICAL SERVICE:

Information covering specific applications for this product is available from your Dyadic International sales/technical representative. We will work with your technical personnel to resolve problems and optimize your process.

IX. SAFETY AND HANDLING:

For detailed information please refer to the **Dyadic Xylanase 2XP CONC** MSDS available upon request.

Nothing disclosed is to be construed as a recommendation to use our products in violation of any patents. The information presented is believed to be accurate. However, said information and products are offered without warranty or guarantee, except as to the composition and purity stated herein since the ultimate conditions of use and variability of the materials treated is beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale. The goods described herein are sold "as is" and "with all faults". The seller specifically disclaims all warranties in connection with the sale of the goods, both express and implied, including, without limitation, the warranties of merchantability and fitness for any particular purpose, as those terms are defined in the uniform commercial code of Florida. The seller shall not be liable for any incidental or consequential damages whatsoever.