simulate the oral conditions.

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**A new chitinase-like xylanase inhibitor protein (XIP) from coffee (Coffea arabica) affects Soybean Asian rust (Phakopsora pachyrhizi) spore germination**

**Érico A.R. Vasconcelos1**,4, Celso G. Santana1, Claudia V. Godoy2, Marilia S. Silva3, Leonora R.S. Moreira4, Osmundo B. Oliveira-Neto1, Daniel Price5, Elaine Fitches5, Edivaldo X.F. Filho4, Angela Mehta1, John A. Gatehouse5, Maria F. Grossi-De-Sa1,§.
1. Embrapa Recursos Genéticos e Biotecnologia; 2. Embrapa Soja; 3. Embrapa Cerrados; 4. Universidade de Brasília; 5. Durham University.

Asian rust (Phakopsora pachyrhizi) is a common disease in Brazilian soybean fields and it is difficult to control. In order to find a biochemical candidate to such enterprise, a new chitinase-like xylanase inhibitor protein (XIP) from coffee (Coffea arabica) (CaclXIP) leaves was cloned into the pGAPZa-B vector for expression in Pichia pastoris. A cDNA encoding a chitinase-like xylanase inhibitor protein (XIP) from coffee (Coffea arabica) (CaclXIP), was isolated from leaves. The amino acid sequence predicts a (ß/a)8 topology common to Class III Chitinases (glycoside hydrolase family 18 proteins; GH18), and shares similarity with other GH18 members, although it lacks the glutamic acid residue essential for catalysis, which is replaced by glutamine. CaclXIP was expressed as a recombinant protein in Pichia pastoris. Enzymatic assay using purified protein showed that CaclXIP had only residual chitinolytic activity. However, it inhibited xylanases from Acrophialophora nainiana by approx. 60% when present at sub-molar equivalence (12:1 enzyme:inhibitor ratio). Additionally, CaclXIP at 1.5 ?g/?L inhibited by 45% the germination of spores of Phakopsora pachyrhizi. These results show that CaclXIP belongs to a class of naturally inactive chitinases that have evolved to act in plant cell defence as xylanase inhibitors. Its role on inhibiting germination of fungal spores makes of it an eligible candidate gene for Asian rust control.

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**HEPATITIS DELTA: Unexpected frequency in Maranhão**

**Lena Maria Barros Fonseca**, Adalgisa de Sousa Paiva Ferreira, Arlene de Jesus Mendes Caldas, Alexsandro dos Santos.

Introduction: The hepatitis D virus (HDV) is a RNA virus, defective, which needs a surface antigen (HBsAg) from the hepatitis B virus (HBV) for full replication and transmission. It is associated to the severe progress of hepatitis, which frequently leads to fast progression to cirrhosis, hepatic decompensation and the development of hepatocellular carcinoma. In Brazil, It is concentrated at Eastern Amazon. On the rest of the country the prevalence is considered insignificant.
Goals: To describe the hepatitis delta cases identified in a HBV study in the State of Maranhão
Methodology: descriptive study, which sample is composed by 05 patients (3.6%/140) with antiHD + serology among chronic carriers which are part of the thesis research, genotyping of the hepatitis B virus.
Results: From the 05 patients, 03 (60%) were male and 02 were female. Also, 02 (40%) were between 40 to 50 years old, 02 (40%) from 61 to 70 years old and 01 (20%) > 70 years old. Regarding profession/ occupation all 05 patients are farmers. Three patients (60%) are from a