

Accepted Manuscript

Title: Structural characterization and rheological behavior of a heteroxylan extracted from *Plantago notata* Lagasca (Plantaginaceae) seeds

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PII: S0144-8617(17)30833-0
DOI: <http://dx.doi.org/doi:10.1016/j.carbpol.2017.07.056>
Reference: CARP 12573

To appear in:

Received date: 2-5-2017
Revised date: 4-7-2017
Accepted date: 19-7-2017

Please cite this article as: Benaoun, Fatima., Delattre, Cédric., Boual, Zakaria., Ursu, Alina V., Vial, Christophe., Gardarin, Christine., Wadouachi, Anne., Le Cerf, Didier., Varacavoudin, Tony., El-Hadj, Mohamed Didi Ould., Michaud, Philippe., & Pierre, Guillaume., Structural characterization and rheological behavior of a heteroxylan extracted from *Plantago notata* Lagasca (Plantaginaceae) seeds. *Carbohydrate Polymers* <http://dx.doi.org/10.1016/j.carbpol.2017.07.056>

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Structural characterization and rheological behavior of a heteroxylan extracted from *Plantago notata* Lagasca (Plantaginaceae) seeds

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Highlights

- *Plantago notata* is a spontaneous plant from Septentrional Algerian Sahara.
- A water-soluble polysaccharide was extracted from its seeds.
- The polysaccharide is a heteroxylan with a backbone of β -(1,3) and β -(1,4)-D-Xylp.
- The heteroxylan has a molecular weight of 2.3×10^6 g/mol.
- The heteroxylan has a pseudoplastic behavior and a C^* of 5 g/L.

Abstract:

Plantago notata (Plantaginaceae) is a spontaneous plant from Septentrional Algerian Sahara currently used by traditional healers to treat stomach disorders, inflammations or wound healing. A water-soluble polysaccharide, called PSPN (PolySaccharide fraction from *Plantago Notata*), was extracted and purified from the seeds of this semi-arid plant. The structural features of this mucilage were evaluated by colorimetric assays, Fourier transformed infrared spectroscopy (FT-IR), gas chromatography coupled to mass spectrometry (GC/MS) and ¹H/¹³C Nuclear Magnetic Resonance (NMR) spectroscopy. PSPN is a heteroxylan with a backbone

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