The effects of concentration and heating-cooling rate on rheological properties of Plantago lanceolata seed mucilage - DTU Orbit (02/12/2018)

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In this study, the effect of concentration (0.5, 1, 1.5 and 2%) and heating-cooling rate (1, 5 and 10 °C min⁻¹) on the rheological properties of Plantago lanceolata seed mucilage (PLSM) solutions were investigated. It was observed that the gum dispersions exhibited viscoelastic properties under the given conditions. Mechanical spectra of PLSM were classified as weak gels based on the frequency sweep, complex viscosity (η*) and tan δ results. All variables had significant impacts on the rheological parameters. Chemical and monosaccharide compositions were also determined to provide more structural information. The results revealed that PLSM had high total sugar content (87.35%), and it is likely an arabinoxylomannan-type polysaccharide.

General information
State: Published
Organisations: National Food Institute, Research Group for Nano-Bio Science, Research Group for Food Production Engineering, Department of Chemical and Biochemical Engineering, Center for BioProcess Engineering, Ferdowsi University of Mashhad
Pages: 1260-1266
Publication date: 2018
Peer-reviewed: Yes

Publication information
Journal: International Journal of Biological Macromolecules
Volume: 115
ISSN (Print): 0141-8130
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 4.11 SJR 0.917 SNIP 1.307
Web of Science (2017): Impact factor 3.909
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 3.84 SJR 0.882 SNIP 1.294
Web of Science (2016): Impact factor 3.671
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 3.38 SJR 0.808 SNIP 1.303
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 3.13 SJR 0.864 SNIP 1.32
Web of Science (2014): Impact factor 2.858
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 3.48 SJR 0.848 SNIP 1.431
Web of Science (2013): Impact factor 3.096
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.77 SJR 0.787 SNIP 1.302
Web of Science (2012): Impact factor 2.596
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 2.73 SJR 0.692 SNIP 1.198
Web of Science (2011): Impact factor 2.453