Electronic Supplementary Material (ESI) for Food & Function

Supporting Information for

Enzymatic Hydrolysis of Starch in the Presence of Cereal Soluble Fibres

Sushil Dhital[1], *Grace Dolan*[2], *Jason R. Stokes*[2], *Michael J. Gidley*[1]*

1 ARC Centre of Excellence in Plant Cell Walls, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, St Lucia, Qld 4072, Australia.

2 ARC Centre of Excellence in Plant Cell Walls, School of Chemical Engineering, The University of Queensland, Brisbane, St Lucia, Qld 4072, Australia

Enzymatic hydrolysis of starches. The enzymatic hydrolysis of granular or cooked maize starch in the presence of 1% and 2% oat beta glucan (OBG), wheat arabinoxylan (WAX) and rye arabinoxylan (RAX) under different mixing conditions (no mixing, 200 rpm and 750 rpm) is shown in Figure S1.

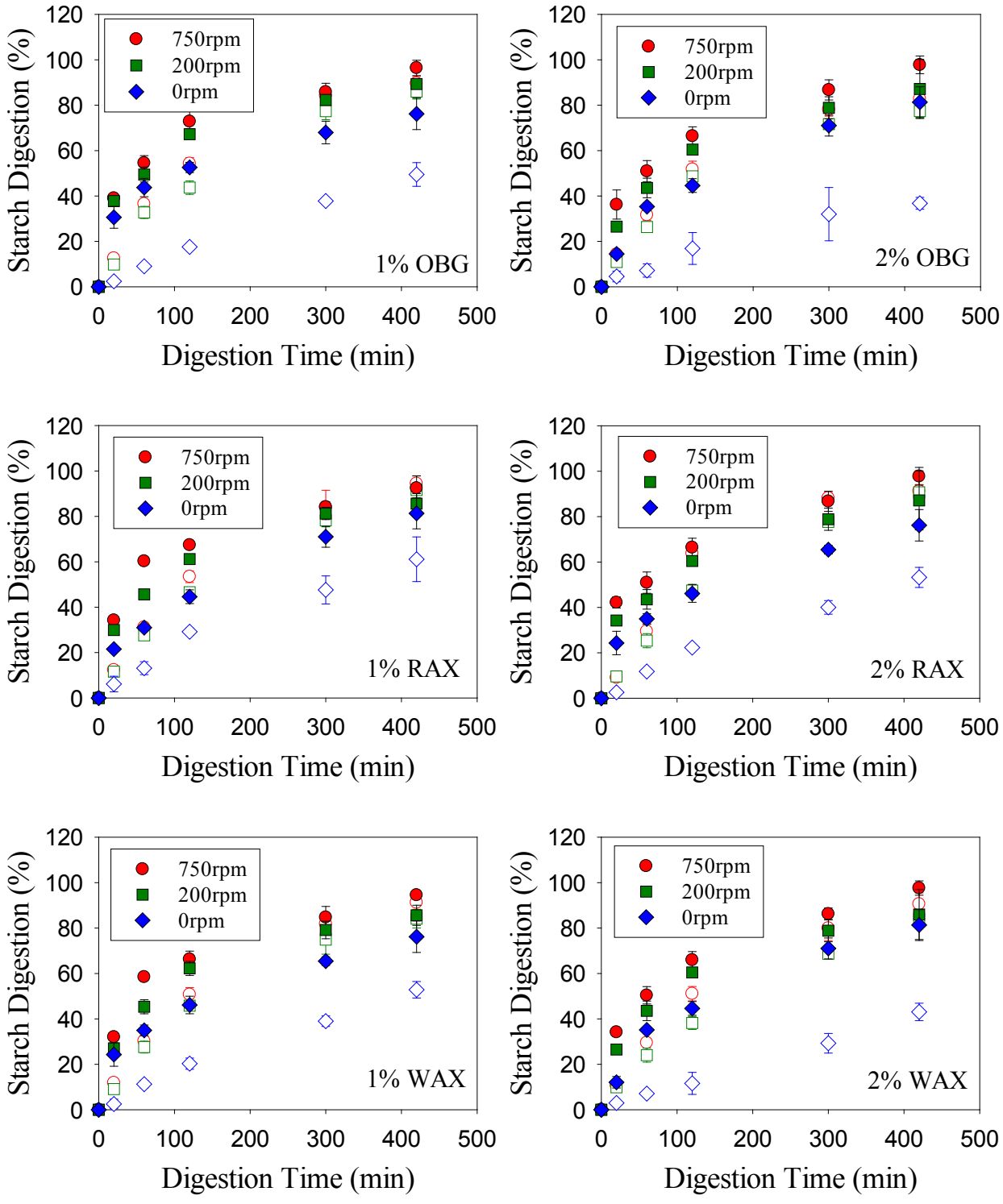
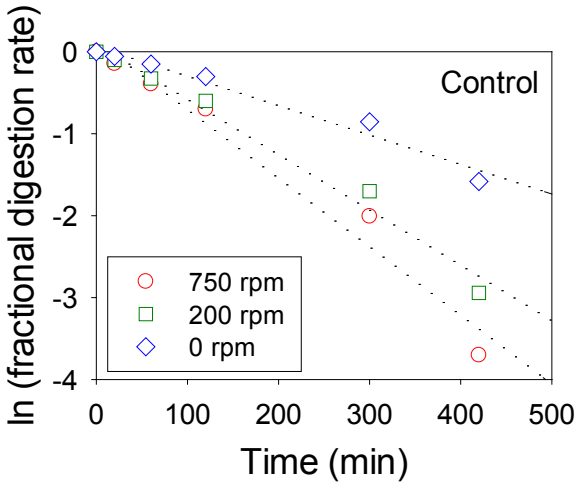
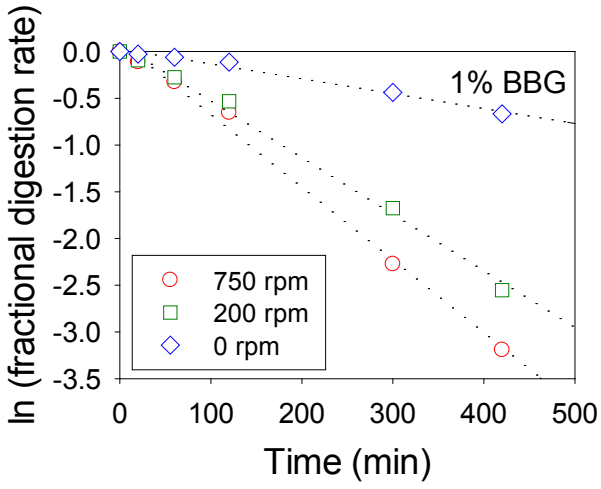
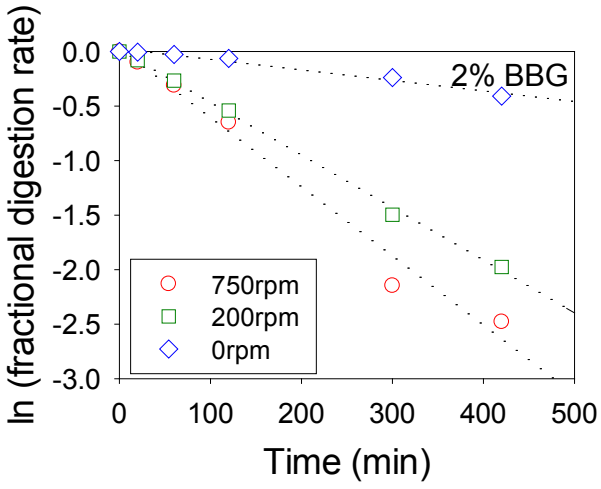


Figure SI: Hydrolysis rate of granular (empty symbols) and cooked (filled symbols) maize starch in the presence of 1% and 2% SDF with 0, 200 and 750 rpm mixing. The SDFs include oat beta glucan (OBG), rye arabinoxylan (RAX), and wheat arabinoxylan (WAX).

First order fit of hydrolysis curve: The hydrolysis curve presented in Figures 4 and S1 are fitted to first order kinetics as previously described[1]. The slope of the curve represents the digestion rate coefficient deduced form the hydrolysis curve. The first order fit of digestion of granular starch is presented in Figure S2 and the fit of cooked starch is presented in Figure S3.







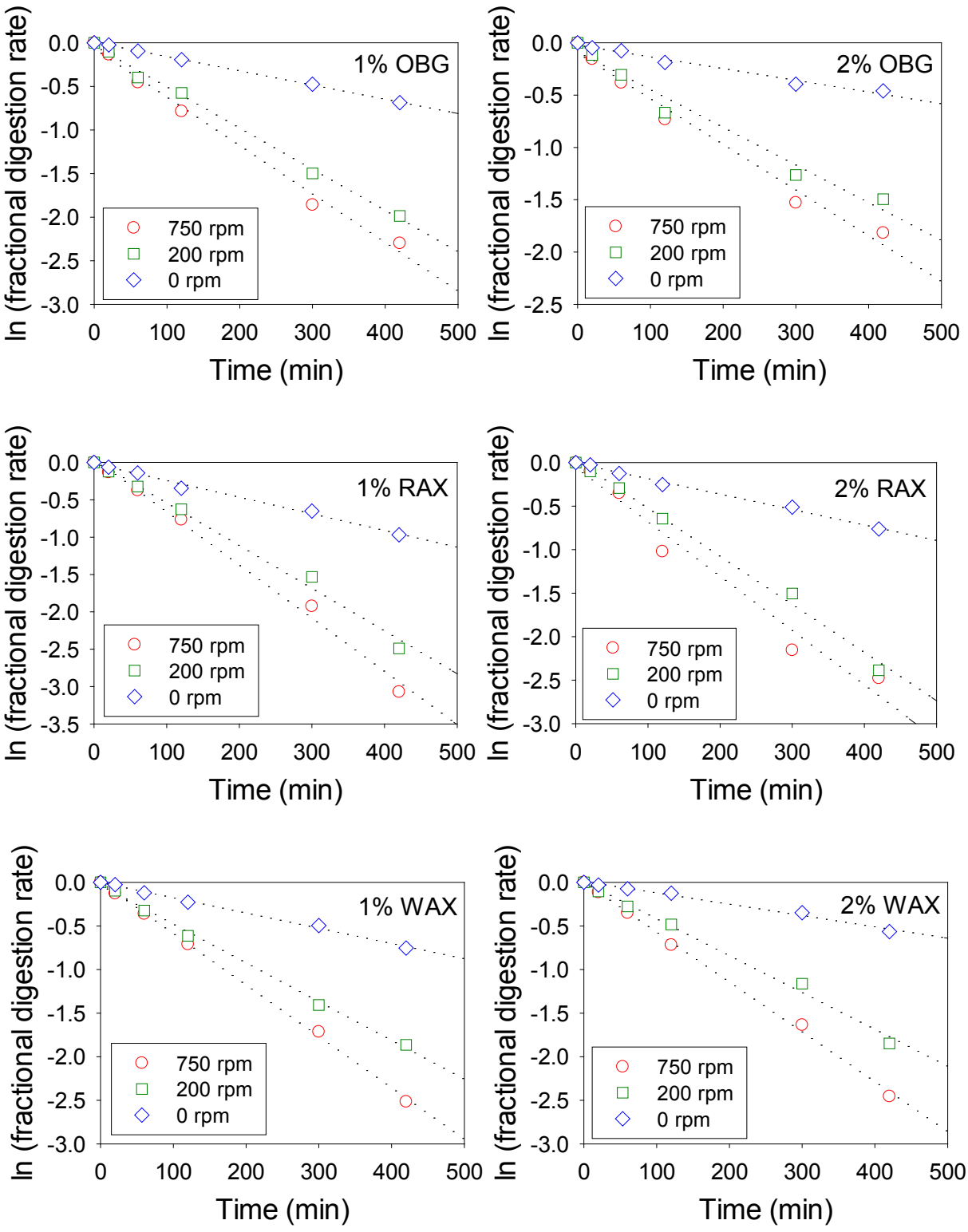
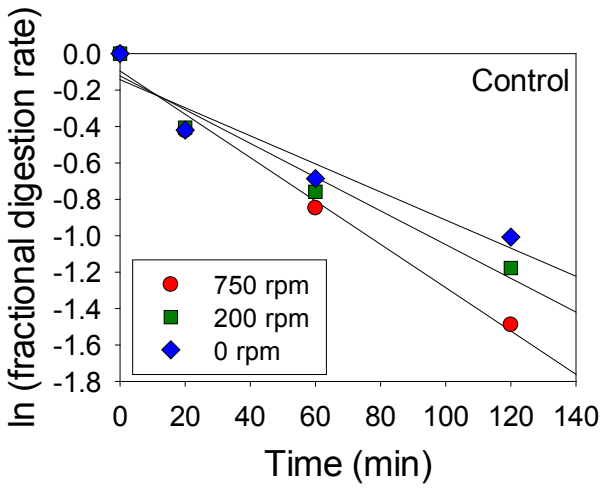
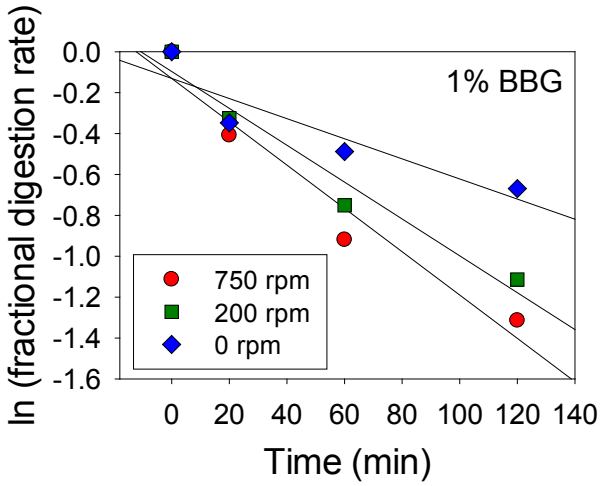
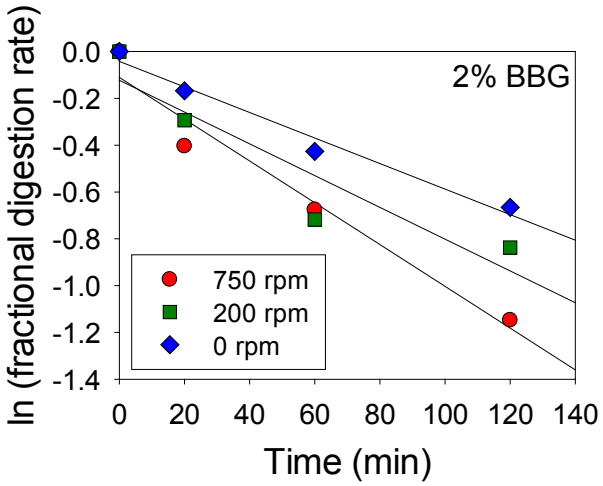


Figure S2: The first order fit of hydrolysis curve of granular starch in the presence of 1% and 2% SDF at no mixing, 200 and 750 rpm.

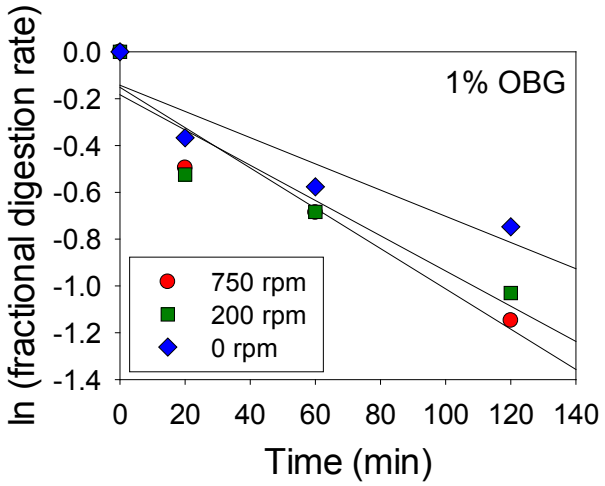


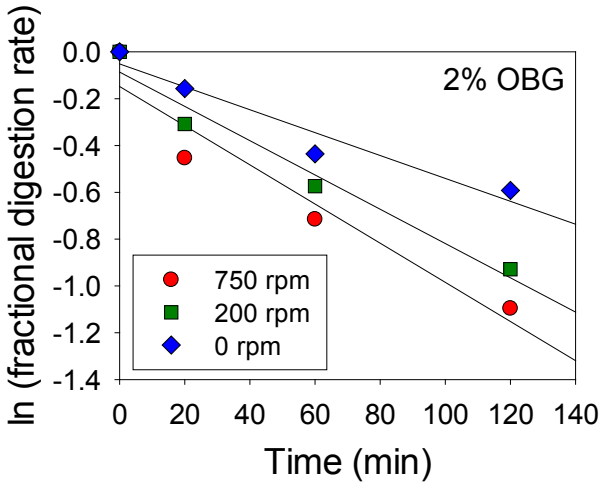
34





35





36

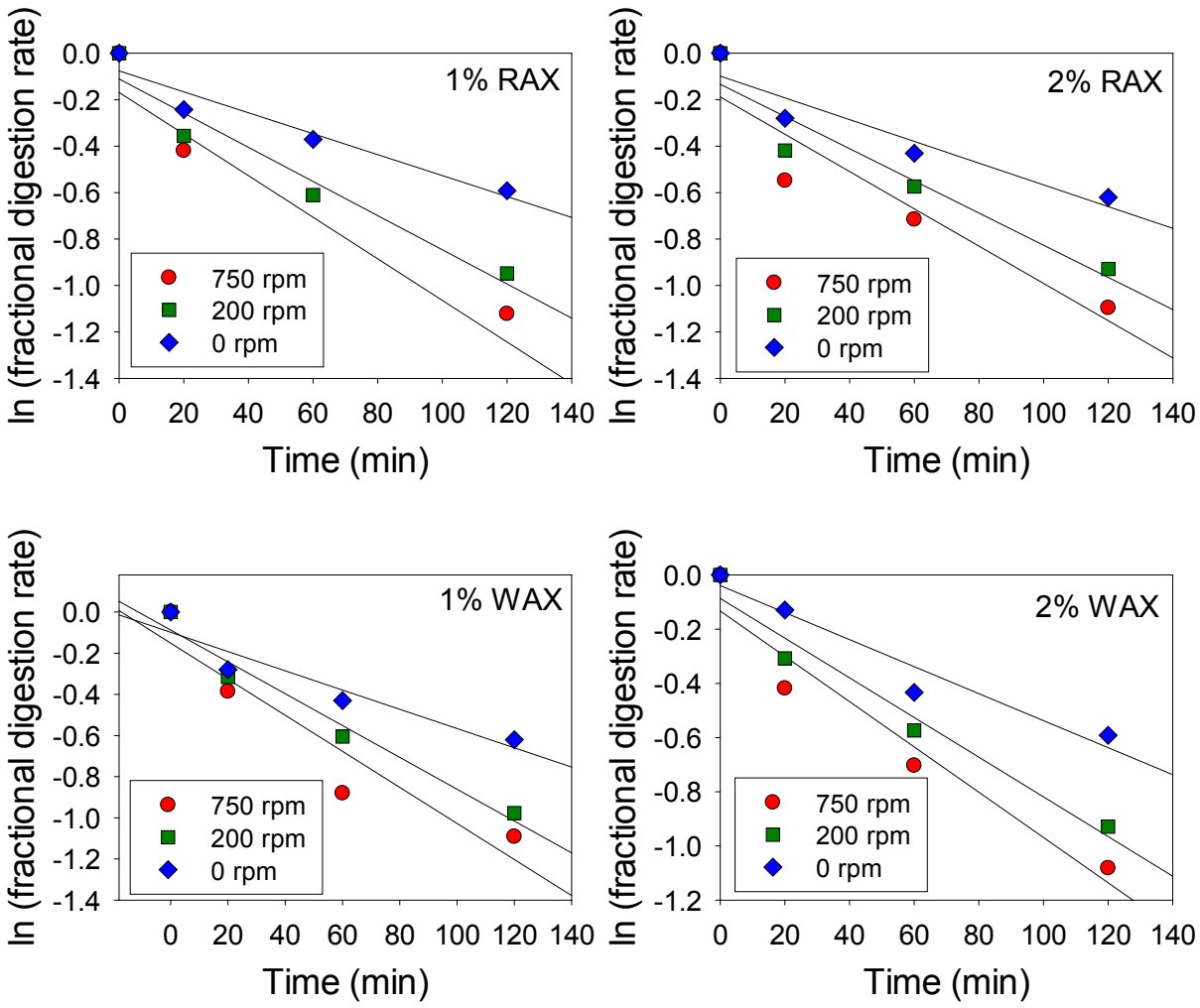


Figure S3: The first order fit of hydrolysis curve of cooked starch in the presence of 1% and 2% SDF at no mixing, 200 and 750 rpm.

Reference

1. Dhital, S.; Shrestha, A. K.; Gidley, M. J. *Carbohydrate Polymers* **2010,** 82, (2-3), 480-488.