

## Cluster 2 – Progress Report for the Cluster 2 Science Advisory Body

### 1. CLUSTER PROJECT DETAILS

**Project number: AAFC AAC-#100242036-v1-AIP**

**Name of Project: P24: Thermal Pretreatment of Pulses for Innovative Ingredients and Consumer-Ready Meat Products II: Going Global**

**Project research period: 2012 to 2018**

**Period covered by this report: April to December 2015**

**Principal investigator and research collaborators: Shand, P.J., Wanasundara, J. and Nickerson, M.**

### NON-CONFIDENTIAL ABSTRACT/SUMMARY

Overall Goal: To implement strategies for developing innovative thermally treated lentil ingredients suitable for global muscle food product applications and increase utilization of these pulse-based ingredients in consumer-ready muscle food products in global markets. This will be achieved through further evaluation of infrared heat processing as a means to improve functionalities of lentil flour for use as a multi-functional meat extender in frozen and heat processed comminuted muscle food applications, development of lentil flour-enhanced meat products for global markets, and consumer evaluation of meat products containing these pulse components.

In order to convince a meat processor to switch from current options, new ingredients must be multi-functional and offer both processor and consumer benefits. In this study, we carried out a detailed evaluation of micronized lentil flour, lentil seed coat, and lentil cotyledon in fresh and frozen beef burgers during storage. Additional evidence of the efficacy of specific lentil fractions in beef systems has been collected, showing good performance (enhanced color and lipid stability) in both raw and frozen beef model systems.

The next phase of the research will be to evaluate binder performance in prototype meat products for a selected South Asian market. The Canadian Consulate is arranging meetings with their local meat companies and an Animal Product Research Centre will assist with meat product preparation and local consumer trials during the next year of the project. This research should expand opportunities for value addition to Canadian pulses and will allow producers and processors to target new markets for their utilization.