

<b>PRO1125</b>
<i>Supporting educators to increase pulse consumption among rural early years children: an intervention study</i>
<b>INVESTIGATORS</b>
Principal Investigator: Dr. Anne Leis, Dept. Community Health & Epidemiology, University of Saskatchewan
Co-Investigator: Dr. Amanda Froehlich Chow, College of Kinesiology
<b>STUDY SPONSORS</b>
Saskatchewan Pulse Growers
<b>STUDY TYPE</b>
Health Outcomes: Intervention Study
<b>OBJECTIVES</b>
To evaluate the impact of pulse crop pilot intervention on expanding the variety of healthy diet options provided to early years children in childcare centres.
<b>WHY STUDY NEEDED</b>
<p>Dr. Froehlich Chow is actively involved in an early years children's initiative called Healthy Start which is aimed at increasing physical activity and healthy eating among early years children. Establishing healthy behaviors during the early years (0-5-years) lays the foundation for development of lifelong healthy living patterns.</p> <p>Amanda Froehlich Chow investigated caregiver knowledge and use of Saskatchewan grown pulses in the diets of rural early years children as her Master's of Science project and found that Saskatchewan educators had limited awareness and understanding of pulse crops and their use in the preparation of nutritious meals for children. Thus there was a lack of pulse consumption in early years care centres.</p> <p>This study was part of a larger Healthy Start intervention program in rural child care centres and one centre was used as the pilot study to evaluate the impact of pulse education to staff and incorporation of pulse crops in the menus of child care centres. As the nutrition component of Healthy Start does not incorporate pulse crops, this second study trained rural educators in how to incorporate pulse crops and modified the nutrition component to include cooking with pulses with the ultimate aim of evaluating the impact of pulse crops in the healthy diets.</p>

<b>HYPOTHESIS</b>
Educating rural educators and families of early years children about pulses and showing how to incorporate pulse crops into menus at child care centres will result in increased consumption of pulses by educators, early years children and their families.
<b>STUDY DESIGN</b>
<p>The pulse intervention study was conducted at one licensed child care centre in rural Saskatchewan. This centre was a sub-group of the larger “Healthy Start” study. The study was conducted over 28 weeks and involved four female educators (35-50 years old) and 25 children (2-5 years). Educators were provided information about the growth, nutrition and health benefits of pulse consumption, trained how to cook and bake with pulses, given pulse recipe books and provided with a supply of pulses to incorporate into the weekly menus.</p> <p>Pre- and post- intervention questionnaires and one-on-one interviews with the educators were conducted to determine awareness and knowledge about pulse crops, to relate their experiences with implementing the pulse crop intervention study and to note any changes in children’s eating behaviors.</p> <p>There were also three reviews of the child centre menus during the 28 week period (pre-, mid- and post- intervention) to determine if staff increased opportunities for children to consume pulse crops over the course of the intervention.</p>
<b>FINDINGS</b>
<ol style="list-style-type: none"> <li>1. Over the 28 week period, educator knowledge and awareness of pulse crops including pulse health benefits and how to cook pulses increased.</li> <li>2. Child care staff went from never serving pulse crops in the child care menus to serving pulses on a weekly basis. The pulse recipe books provide a variety of cost effective and creative healthy options.</li> <li>3. As comfort level and acceptance of pulses increased, the educators began engaging the children in baking with pulse crops with most children enjoying the pulse-based foods.</li> <li>4. Child care staff also indicated they had begun to use pulses in meals they prepared for their families.</li> <li>5. Children’s eating patterns were not directly measured.</li> </ol>
<b>SIGNIFICANCE OF STUDY</b>
<p>The pulse crop intervention program was effective in increasing educatory knowledge and awareness about the nutrient content and health benefits of pulse crops</p> <p>Study resulted in incorporation of pulses into childcare menus for the first time for this centre and the promotion of pulse consumption among early years children in the childcare.</p>

Study shows that a pulse crop intervention in childcare centres is feasible and can have an impact on increasing educator knowledge and awareness of pulse crops

#### **PUBLICATIONS, PRESENTATIONS, EDUCATIONAL MATERIALS PRODUCED**

1. Froehlich Chow, A., Leis, A., Humbert L., Engler-Stringer, R., & Muhajarine, N. (2015). Supporting Healthy Eating Among Rural Early Years Children: A Pulse Crop Pilot Intervention Study. *Journal of Agromedicine*, 20:386–389.

#### **VALUE TO PRODUCERS**

The study provided some information on the general lack of awareness of pulses and how to use them, even in Saskatchewan where pulses are grown.

The study indicated the need for continued public education of the nutritional and health benefits of incorporating pulses into weekly diets.

Increased consumer knowledge would translate into increased consumption.