Pulse-based nutrition education intervention entitled “Pulse Discovery Tool Kit” (PDTK) was implemented in six childcare centres in Saskatoon during 2015-2016 school year. The PDTK is a multicomponent nutrition intervention designed to promote healthy eating habits in childcare centres. It was specifically designed to encourage incorporating pulse-based food products into the diets of pre-school children. The PDTK was translated in French for Centre B. Data was captured on feasibility and acceptability of the PDTK through pre-post knowledge test, taste testing (sensory evaluation), lesson plan evaluations, teachers’ and cook’s interviews, and plate waste. The pre-and post-knowledge test of participating children indicated a significant increase in the knowledge of pulses. Correct identification of lentils and beans was highly improved from baseline to post intervention. Sensory ratings of pulse based recipes indicated they enjoyed the dishes as more than half of the children rated the various recipes as “Yummy”. The results of lesson plan evaluation showed that there was a high level of engagement among the children, for majority of the lesson plan activities. The majority of early childhood educators rated the clarity of the various lesson plans as “good”. They mentioned that taste testing and planting seeds were very important aspect of the PDTK intervention. Interview findings from the cooks said that it was both feasible and acceptable to incorporate the pulse–based dishes within the centres; and that modifications maybe required for a few of the recipes for easier adaptability. Food intakes of selected intervention (chickpea spread, three bean quesadilla, lentil pizza, and chicken chickpea stirfry) and regular recipes were captured using a digital photography-weighted plate waste. Comparisons of nutrient composition of regular and intervention recipes showed that majority of pulse-based intervention recipes had better fat profile with lower amounts of saturated fat, higher fibre, lower calories, and sodium in comparison to regular recipes. PDTK is an educational tool that has the potential to influence healthy eating behaviors and increase preferences for pulse based dishes on the menu and knowledge among pre-school children.