

Title: Historical use of pulses and pulse ingredients in pet food industry: Past, Present and Future

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Abstract: Pulse crops belong to Leguminosae spp. plant family and are classified as the edible dried seeds of legumes which can be further processed into flour, fiber, starch, and protein ingredient fractions. Pulse ingredients are good source of energy, proteins (typically high in lysine and low in sulphur rich amino acids), carbohydrates (higher in amylose compared to cereal starches), dietary fiber, micronutrients (vitamins, minerals and anti-nutritional compounds); and provide alternative solutions in pet food formulations. Health benefits of pulse ingredients are primarily due to concentration, processing, particle size and properties of starch, protein, dietary fiber, vitamins, minerals, and phytochemicals which can be found at variable levels in different pulse fractions. Pulse crops and milled pulse ingredients have been utilized within the pet food industry over the last two decades and have been a crucial ingredient in the growth of gluten free, allergen free and grain-free diets in the pet food industry. Pulse proteins provide a plant-based, allergen free, highly digestible alternative protein source (>90%) with a characteristic amino acid profile (rich in lysine, arginine, glutamine, glycine, and low in methionine and cysteine) and pulse fibers are rich in terms of cellulosic fiber (cellulose, hemicellulose). The focus of this presentation is to overview the historical use of pulses and pulse ingredients in pet food industry, provide a full background on the industry and how pulses were adopted into the pet food industry.