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**HEMP PROCESSING BY-PRODUCTS: A POTENTIAL SOURCE OF NEW AQUAFEED INGREDIENTS**

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Aquaculture production activities occur in every province and territory of Canada, and in 2020 Aquaculture industry generated \$3.86 Billion in economic activity and employed 14,520 full time workers in Canada. The salmonid aquaculture industry has largely transitioned to using plant-based proteins and oils to reduce reliance on traditional marine ingredients (fish meals and oils), which have reached their limits. Exploring new ingredients for salmon and trout aquafeeds is crucial to meet the growing demand for farmed salmonid products. Hemp processing by-products show promise as potential aquafeed ingredients due to their good profiles of essential amino acids (EAAs) and polyunsaturated fatty acids (PUFAs) beneficial for fish growth and health. We have extracted kilogram-scale quantities of protein isolates (PIs) and oils from the hemp by-products, hemp cake and hemp seed hulls and evaluated their nutritional composition. High protein digestibility of >88% was observed for hemp PIs when evaluated using a two-phase *in vitro* gastric/pancreatic protein digestibility assay (IVGPD). Findings from both *in vitro* digestion assays and an *in vivo* feeding study with rainbow trout indicate that hemp processing by-products have potential as a novel aquafeed ingredient feedstocks, benefiting sustainable aquaculture practices.

