

Innovation towards Indigenous food sovereignty - Developing Native-owned lake trout products with Confederated Salish and Kootenai Tribes

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Background

By partnering with the Confederated Salish and Kootenai Tribes, this study aimed to develop Native-owned products which assist to regain sovereignty over food choices and the Native ecosystem. This research exemplifies culturally responsive product innovation, proposing a gateway for food scientists to support Indigenous food sovereignty via participatory action research.

Introduction

The disruption of Native American food systems was attributed to the transition from hunting and gathering to relying on ultra-processed commodity foods. The resulting loss in food heritage, increase in diet-related chronic diseases, and deteriorating food ecosystem concern members of the Confederated Salish and Kootenai Tribes. The Tribal fishery emerges to restore the Native ecosystem by harvesting the invasive lake trout. This study aimed to partner with the Tribes in developing Native-owned lake trout products as a means to regain sovereignty over food choices and the Native food ecosystem.

Methods

Following participatory action research, a pre-survey was conducted to determine the Tribal members' interest in developing Native-owned products, and two focus groups (FG) were formed (n=8 and 5, respectively) to discuss food memories, culinary traditions, and feedback on smoked trout prototypes to guide the product development. The developed smoked trout products were evaluated via consumer sensory tests on and off Reservation using a nine-point hedonic scale. The FG and sensory data were analyzed by Nvivo 12 (QSR, Melbourne, Australia) and XLSTAT (Addinsoft Inc, New York, USA), respectively.

Results

The pre-survey participants manifested interest in discussing nutrition issues and reconnecting with food heritage. The FG suggested using Indigenous spices including sumac and juniper berry and adjusting the smoking process for traditional flavor preferences. The FG also recommended creating taco recipes for the smoked trout to encourage home cooking. The developed smoked trout was showcased by two story-telling recipes inspired by the FG: Fish Skin Taco to recall childhood memories of smoking crispy fish with families, and Baja Fish Taco to embrace changes by incorporating non-Native ingredients. For both the on and off-Reservation sensory tests (n=18 and 26, respectively), both recipes received an average rating above 7.2 on taste, story/concept, and package/label, suggesting high product acceptance by both Native and non-Native consumers. The off-Reservation consumers (19 non-Native and 7 Native) rated the story/concept of the Fish Skin Taco (8.1±1.0) higher than the Baja Fish Taco (7.4±1.3) ($p= 0.032$).

Significance

This study exemplifies culturally responsive product innovation, proposing a gateway for food scientists to support Indigenous food sovereignty via participatory action research.

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