

**Chemical, Physical and Sensorial Compositions of Farmed and Wild
Yellow Perch (*Perca flavescens*), Southern Flounder (*Paralichthys
lethostigma*) and Coho Salmon (*Oncorhynchus kisutch*)**

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(ABSTRACT)

This study compared chemical, physical and sensorial properties of wild and farmed fish.

Farmed yellow perch fillets showed higher lipid contents (2.78% vs. 1.39%); softer texture (0.41 J/g vs. 0.53 J/g); whiter color (higher L* and lower b* values); different fatty acid profile (higher n-3/n-6 ratio), and mineral composition, when compared to their wild counterparts. Similar amino acid profiles and flavor were found between treatments.

Dietary protein by itself influenced color and flavor of yellow perch fillets. Yellow perch fed the highest protein concentrations exhibited higher b* (yellow) values and overall flavor was significantly different ($p \leq 0.05$) between fish fed a 45% and 55% crude protein (CP) diet.

A 12-week feeding trial determined that southern flounder protein requirement to achieve maximum weight was around 50% CP. Farmed southern flounder were found to be higher in lipid content (3.04 % vs. 1.61%), softer (0.24 J/g vs. 0/33 J/g), different in color (lower a* [green to red]), mineral, fatty acid composition (higher n-3/n-6 ratio) and flavor, than wild.

The effect of a crab meal-supplemented diet, on flavor and body composition of flounder was analyzed. The inclusion of crab meal as a flavor enhancer affected the flavor and also influenced color of the fillets (lower L* [lightness] and higher b* values).