



NOAA
FISHERIES

Nutritional analysis of store bought scallops from different countries

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Introduction



- Wild scallops are approximately 75% water
- Harvested scallops can be preserved one of 3 ways
 - Dry frozen without additional water
 - Phosphate-based compounds
 - Immediately sold as is
- In 1992, FDA guidelines said moisture content was not to exceed 80% to be labeled as “Scallop”, if the moisture content was greater the bags should have been labeled with
 - “ X % Water Added Scallop Product”
- In 2004, the FDA rescinded the policy, but NOAA Seafood Inspection Program continues to monitor moisture content and labelling practices

Our study

Examine the moisture, protein, and phosphorus contents of store-bought scallops



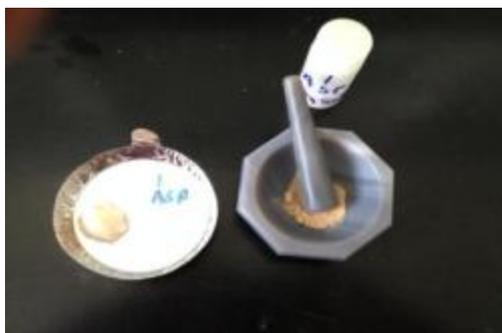
1. Was there a difference between wild-caught (n=4) and aquaculture-raised (n=4) scallops?
2. Was there a difference between scallops from the United States (n=2), China (n=5) or Mexico (n=1)?
3. How would the bags be labeled if the 1992 FDA guidelines were still in place ?



Methods

Variables measured:

1. Moisture content
2. Protein content (nitrogen)
3. Total phosphorus
4. Phosphatides
5. Phosphorus pentoxide (P_2O_5)



Methods used:

1. 5-10 scallops per bag, from a total of 8 bags
2. AOAC method 950.46 (moisture in meat)
3. AOAC method 995.11 (total phosphorus in food) using a microflow analyzer

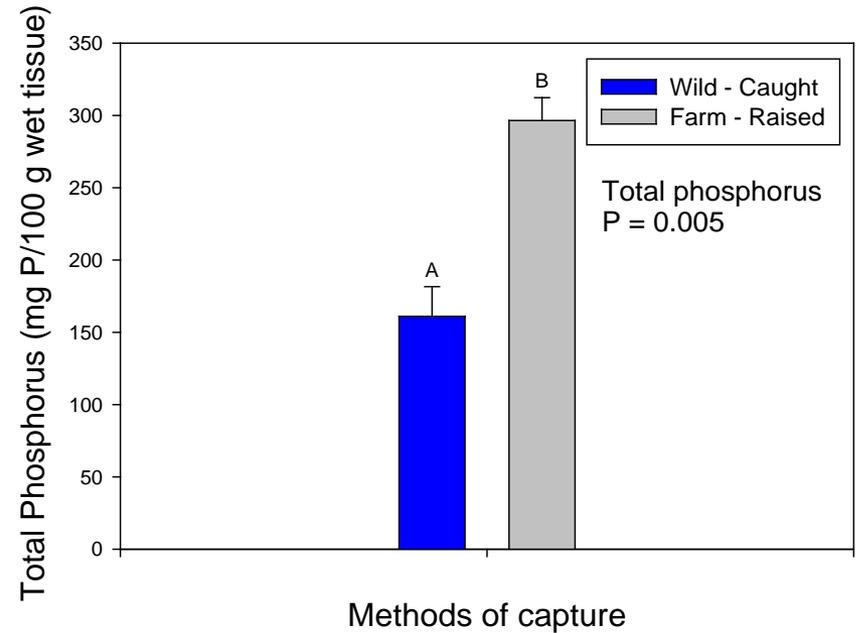
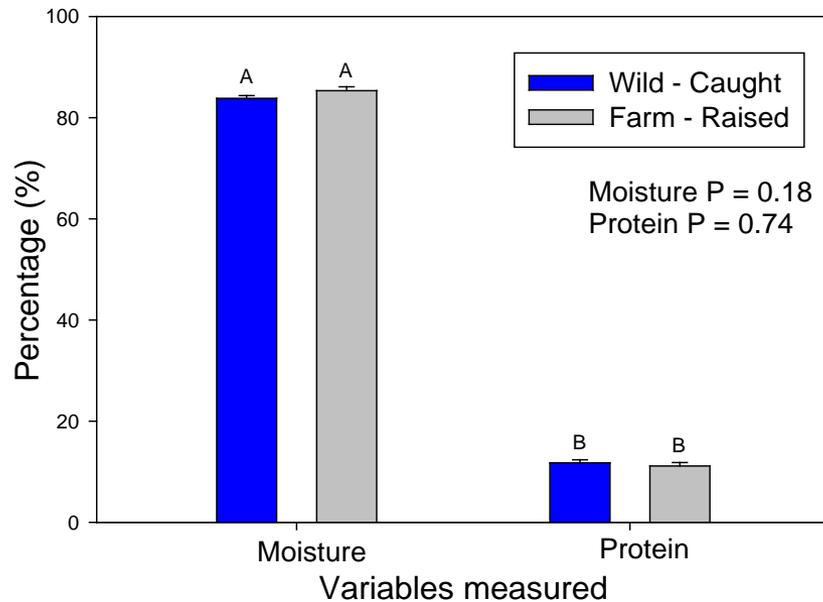
Results



Wild-Caught versus Farmed-Raised

No significant difference for moisture or protein

Significant difference for total phosphorus



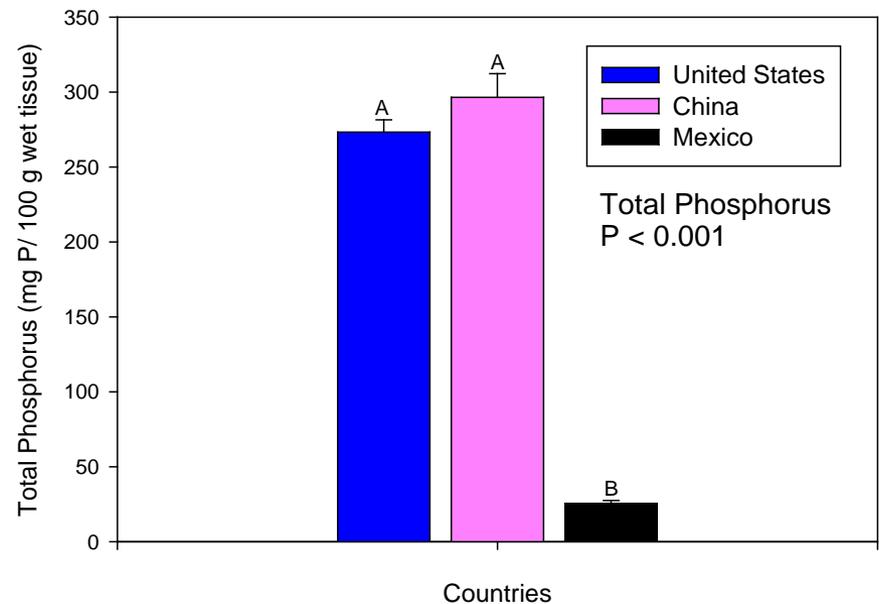
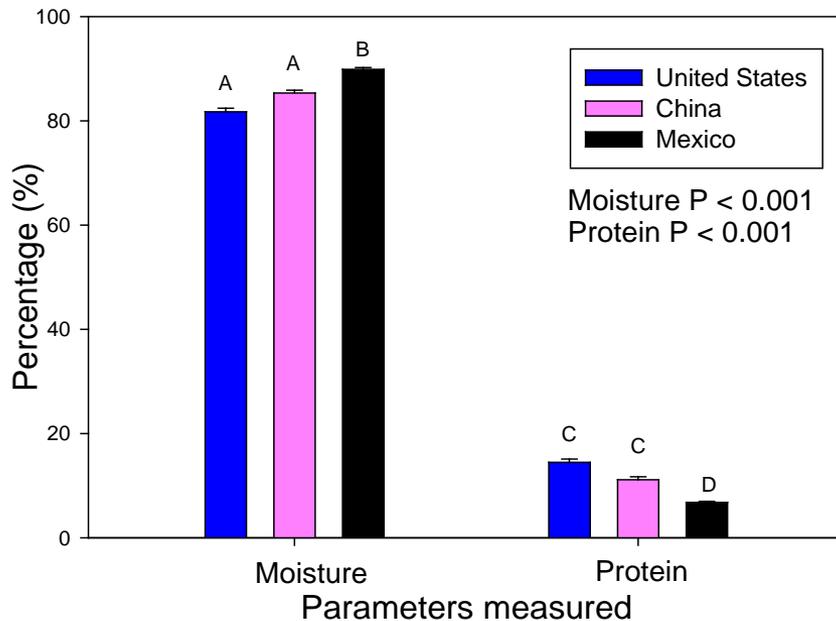
Results



Country of origin (United States, China or Mexico)

No significant differences between United States and China

Mexico : ↑ moisture content ↓ Protein content ↓ Total phosphorus



Conclusions



- Scallops from the United States and China were not different in any measured variables.
- Scallops from Mexico were significantly different from the United States and China
- There was no significant difference between Wild-Caught and Farm-Raised

Interesting fact:

**If the FDA guidelines were still in effect only one bag from the United States would have been considered labeled properly as “scallop”
The other bags should have been labeled “scallop product”**

Acknowledgments

All the poor scallops that gave their life for our research. The other scientists in our building who had to suffer through the smell of slow drying scallops for months on end.

