Evaluations by
USDC – SIP (Seafood Inspection Program)

• must be requested by a client
• are not mandatory
• SIP operates on a fee-for-service basis

INSPECTION  vs.  EVALUATION TO MEET GRADE STANDARDS
Historically, categorizing product into Grades was aimed at improving handling-practices at sea, beginning ~1950s, to increase buyer confidence. It was limited to:

- dockside
- external characteristics only
...as more characteristics were added, standards became

- cumbersome
- complicated to interpret
Utility of grading seafood

- ~30% of seafood consumed in U.S. is inspected by SIP
- ~2% of this 30% is graded, e.g. Grade A
Utility of grading seafood (cont.)

• only products of USA origin is eligible for a Grade Shield
• must have been produced in a facility that meets sanitation requirements (... is on USDC Approved List)

• most users, but not limited to, are:
  – children or elderly (USDA buying programs)
  – military (required by their specifications)

• clients have specifications possibly as strict as Grade A
• other product may be evaluated using Grade A specifications to describe quality without using a Grade Shield
The Spoilage Continuum

The seafood spoilage process - odors change as quality deteriorates.

Here is where sensory plays a role....
When the Federal Register documents were written, inspection practices were in their “preschool” years

• evaluation of workmanship defects was the focus in past decades
With the focus on workmanship defects, training tools for these factors were well developed....
But other sensory (or organoleptic) characteristics were...

- vaguely described
- lacked reference(s)
These standards apply to clean, wholesome shrimp and are implemented in accordance with additional guidance set forth in the following documents:

1. Federal Food, Drug, and Cosmetic Act;
2. Code of Federal Regulations (CFR) Title 21 -
   (a) Part 101: Food Labeling;
   (b) Part 110: Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food; and
   (c) Part 123: Fish and Fishery Products;
3. CFR Title 50, Regulations Governing Processed Fishery Products, Subchapter G - Processed Fishery Products, Processed Products Thereof, and Certain Other Processed Food Products;
4. USDC National Institute of Standards and Technology (NIST) Handbook 133, Checking the Net Contents of Packaged Goods (January 2005);
5. Food and Agriculture Organization (FAO)/World Health Organization (WHO) Codex Alimentarius General Guidelines on Sampling (CAC/GL 50-2004); and
6. International Organization for Standardization (ISO) Sampling Procedures for Inspection by Attributes -
   (a) Part 10: Introduction to the ISO 2859 Series of Standards for Sampling for Inspection by Attributes (2859-10:2006);
   (b) Part 1: Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-By-Lot Inspection (2859-1:1999, 2859-1:1999/Cor 1:2001); and
   (c) Part 1: Sampling Plans Indexed by Acceptance Quality Limit (AQL) for Lot-By-Lot Inspection [2859-1:1989 (E)].

A SAMPLING OF ALL THE REGULATIONS & GUIDELINES THAT APPLY...
Improvements are being made --

1. US Standard for Fresh and Frozen Shrimp
2. US Standard for Grades for Fresh and Frozen Fish Fillets
3. US Standard for Grades of Fresh and Frozen Fish Steaks
4. US Standard for Grades of Frozen, Coated Fishery Products
5. US Standard for Grades of Scallops
6. US Standard for Grades of Fresh and Frozen Whole Fish
7. US Standard for Grades of Frozen Fish Blocks
Practical application and alignment of descriptive sensory during quality evaluations....
The improvements I’d like to see:

1. Disseminating this information CONSISTENTLY
   - spreading the knowledge base
   - inspectors remain current
   - instructors understand/are proficient at sensory execution

2. Efficient, low-labor training at remote field locations
   - kits (sensory references, measurable exercises for odors, flavors, texture) **10% done**
   - webinar or website training programs – simple **40% done**

3. Accuracy and precision of inspectors
   (day-to-day consistency and inspector-to-inspector consistency)

4. Replacing “Good / Reasonably Good” designations
5. Cooking methods that are user-friendly (and don’t create artifacts)
Barriers to change:

- loyalty to “Good / RG”
- steps required for policy change
- low budget
- fear of / the discomfort of / change
- cooking / consistency in preparation
“Our goal – a GREAT food supply!”

E. Chambers IV, 2010
A current guide to odor, flavor, texture and appearance descriptors, Shrimp....
A current, handwritten scoresheet, Halibut....
A draft, electronic scoresheet, Shrimp....
Product inspection is divided into the following four categories:

(1) label declaration;
(2) physical adulteration;
(3) workmanship attributes; and
(4) sensory attributes.

Label declaration includes:

- (1) label regulations
- (2) net weight;
- (3) size designation (count per pound).

Physical adulteration, defined in accordance with the Federal Food, Drug, and Cosmetic (FD&C) Act, includes foreign/visible material that has not been derived from shrimp and

- (1) poses a threat to human health or
- (2) renders the product unfit for human consumption.

Workmanship attributes include:

- (1) broken shrimp, damaged shrimp, and shrimp pieces;
- (2) unusable material;
- (3) uniformity of size (ratio);
- (4) dehydrated shrimp;
- (5) black spotted shrimp;
- (6) diseased shrimp, improperly cleaned end shrimp, and unacceptable shrimp;
- (7) improperly deveined shrimp, improperly peeled shrimp, and inadvertently peeled shrimp;
- (8) "all" workmanship attributes (a summation).

Sensory attributes include:

- (1) odor and flavor;
- (2) texture.