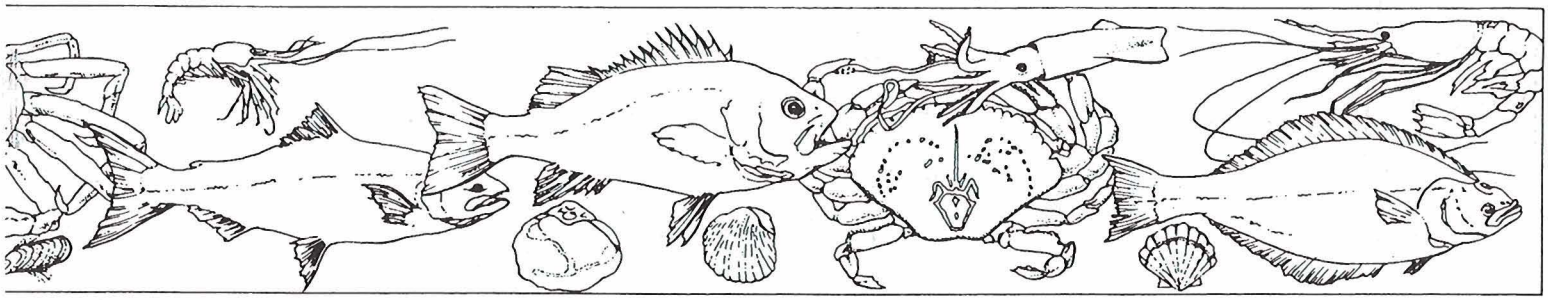
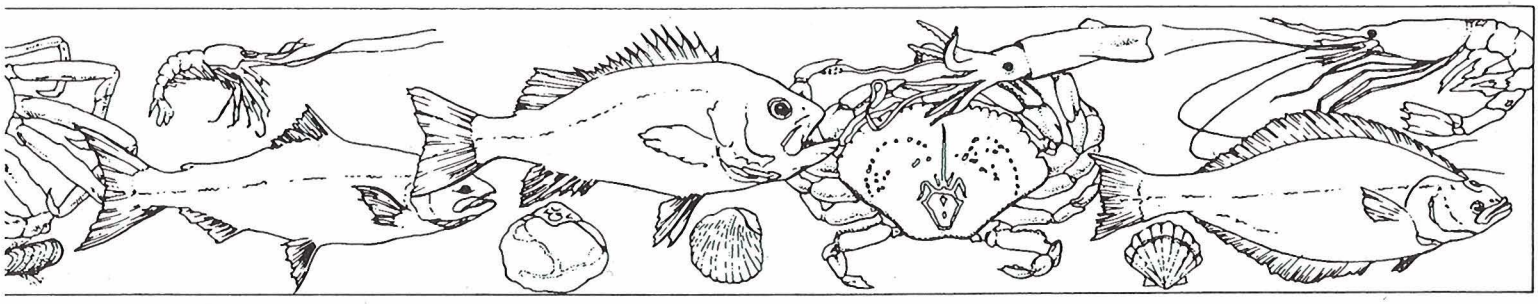
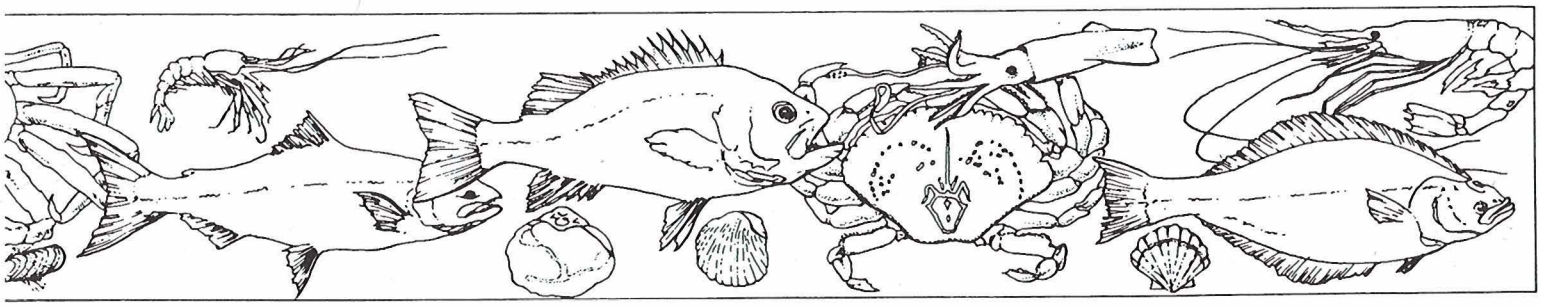
Alaska Seafood
MARKETING INSTITUTE

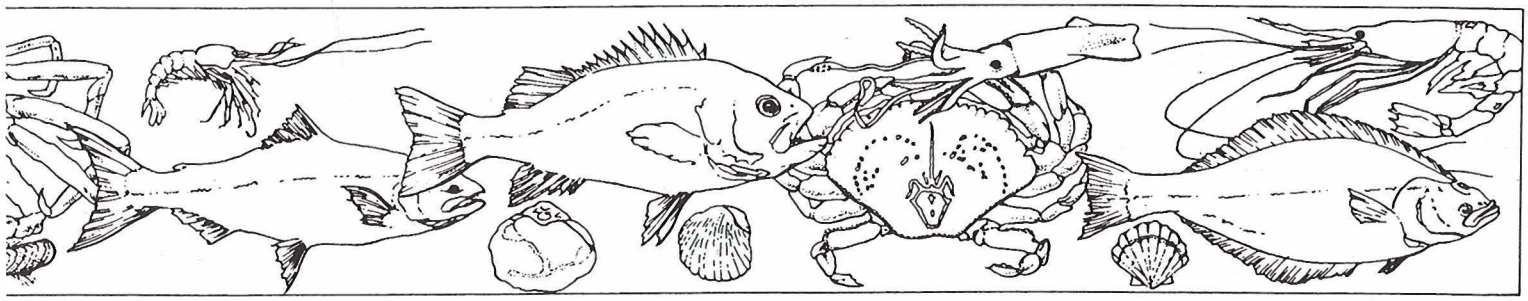


Premium Quality Specifications





Dungeness Crab



Alaska Seafood Marketing Institute

Recommended Statewide Premium Quality Specifications For Dungeness Crab

Part I: Definitions

Section 1: Species

Frozen Alaska Dungeness Crab meat is the processed flesh of the species of crustacean listed below:

A. *Cancer magister*—Dungeness Crab

Section 2: Components

A. **Shoulders**: That segment of the walking legs and claws adjacent to the body cavity, the meat of which consists of a bundle of medium length, homogeneous, longitudinal fibers of white meat capped by a membrane swirl at the base and encompassing a small yellowish or light brown area at the opposite end. The body meat is confined within a yellow, white and brown tinted membrane but is not usually extracted in whole segments.

B. **Merus**: The largest segment of the walking legs, the meat of which consists of homogeneous, longitudinal fibers of white meat confined within a thin, brown-orange tinted membrane having a small concentration of membrane at each end.

C. **Carpus/Propodus**: The segments of the walking legs located at the distal end of the merus, the meat of which consists of homogeneous, longitudinal fibers of white meat enclosed in a slightly tough, brownish tinted membrane, but not including the dactylus tip.

D. **Dactylus**: The distal end of the walking leg and the movable portions of the claw pincers.

E. **Claw Arms**: The nonwalking appendages supporting the pincers, consisting of a series of short segments, similar to the legs, but of smaller size. The brown tinted membrane enclosing these units is slightly thicker, and the meat more dry and firm than the corresponding leg meat.

F. **Claw Pincers**: The propodus and dactylus segments connected to the claw arm, consisting of short, vertical, homogeneous coarse fibers generally having a light brown tinted surface on the dorsal side.

G. **Whole Pieces**: The extracted segments of meat from the legs, claws and body, not split or broken, and which retain a minimum of 50 percent of the carotenoid membrane intact.

H. **Whole Merus Meat**: The extracted merus section of the walking leg which may or may not be trimmed of the knob end, retaining a minimum of 75 percent of the dorsal carotenoid layer, and shall not be split or broken.

I. **Brown (Red) Meat**: The extracted merus, carpus, propodus and claw arm covered by a carotenoid membrane.

J. **White Meat**: Body meat, whole or broken, and meat from other components lacking sufficient carotenoid membrane for identification.

K. **Shreds**: Individual fibers and broken fragments of crab meat which are smaller than 3/8″ × 1/8″ × 1/8″ in cross section.

L. **Dehydration**: The evaporation or sublimation of water to the extent that the nature of the surface is noticeably changed. This will usually show by fading of shell color or by whitening of shoulder meat and a sponginess in the shoulder meat in severe instances.

Part II: General Requirements

Section 1: Product Specifications

All products shall be prepared from wholesome, live Dungeness Crab.

Section 2: Microbiology (applicable to all meat and shell products)

A. **General**: Dungeness Crab sections or the thawed drip therefrom shall be inspected for microbiological counts using recognized methodology as published.

B. **Tolerances:**

	Not More Than:
Aerobic Plate Count (TPC or APC)	50,000/gram
Coliform Group	50/gram
E. coli	3.6/gram
Coagulase Positive Staphylococci	50/gram

C. **Limitations**: When routine examination on a minimum sampling basis indicates that microbiological counts may exceed the general limits for a specified lot, duplicate samples in quantity shall be examined for verification. One (1) sample in six (6) may exceed the general limits and still be acceptable as long as the lot average for the six (6) samples does not exceed the tolerance. These microbiological standards shall apply to all Dungeness Crab products.

Part III: Frozen Alaska Dungeness Crab Sections

Section 1: Product Description

A. Dungeness Crab sections shall consist of a cooked, ready-to-eat body section (one-half of a cooked crab) containing four (4) walking legs complete with shoulder, claw and arm attached. There should be at least four (4) of the five (5) major appendages in at least 70 percent of the sections. Deformed legs or claws shall not be used. The combined legs and claws should contain a minimum of 35 percent meat.

Section 2: Quality Specifications for Frozen Alaska Dungeness Crab Sections

A. **Objective Evaluation:**

1. Appearance, External: Sections shall be glazed and/or packaged to prevent dehydration during storage, the exposed shoulder meats shall be reasonably free of viscera and other extraneous material and may be protected with moisture barrier materials. There shall be no dehydration which would adversely affect the quality or appearance of the product. All gills shall be removed. The legs shall be packed in such a manner that the top layer as seen by the customer has the dorsal (brown) surface up.
2. The shell shall be reasonably free of barnacles and other marine growth.
3. The deglazed weight shall average 100% of the stated net weight of the frozen product and shall meet the guidelines set by the National Bureau of Standards with regard to variations therefrom.

B. **Subjective Evaluation:**

1. Color: The dorsal shell surfaces of the legs and claws shall be of a characteristic brownish color: the ventral surface shall be light tan to brown and relatively free of scars and black discoloration. The shoulder shell will be tan to brown. The exposed shoulder meat shall be creamy white to brownish, greenish white.
2. Flavor: When thawed, the flavor shall be typical of the species and may vary from bland sweetness to slightly salty, depending upon the portion sampled.
3. Odor: When thawed, the odor shall be indicative of freshness as associated with fresh caught, cooked and chilled Dungeness Crab.
4. Texture: When thawed, the texture will vary from tender, moist, longitudinal fibers of the shoulder meat to the somewhat firmer, vertical fibers of the claw meat.

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D. **Dactylus**: The distal end of the walking leg and the movable portions of the claw pincers.

E. **Claw Arms**: The nonwalking appendages supporting the pincers, consisting of a series of short segments, similar to the legs, but of smaller size. The brown tinted membrane enclosing these units is slightly thicker, and the meat more dry and firm than the corresponding leg meat.

F. **Claw Pincers**: The propodus and dactylus segments connected to the claw arm, consisting of short, vertical, homogeneous coarse fibers generally having a light brown tinted surface on the dorsal side.

G. **Whole Pieces**: The extracted segments of meat from the legs, claws and body, not split or broken, and which retain a minimum of 50 percent of the carotenoid membrane intact.

H. **Whole Merus Meat**: The extracted merus section of the walking leg which may or may not be trimmed of the knob end, retaining a minimum of 75 percent of the dorsal carotenoid layer, and shall not be split or broken.

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J. **White Meat**: Body meat, whole or broken, and meat from other components lacking sufficient carotenoid membrane for identification.

K. **Shreds**: Individual fibers and broken fragments of crab meat which are smaller than 3/8″ × 1/8″ × 1/8″ in cross section.

L. **Dehydration**: The evaporation or sublimation of water to the extent that the nature of the surface is noticeably changed. This will usually show by fading of shell color or by whitening of shoulder meat and a sponginess in the shoulder meat in severe instances.

Part IV: Frozen Alaska Dungeness Crab Meat Blocks and Cans

Section 1: Product Description

A. Dungeness Crab meat blocks are rectangular shaped units of cooked, ready to eat, frozen Dungeness Crab meat. When sampled in whole units or cut blocks of 2.5 pounds or more, these blocks shall meet the following specifications:

1. The bottom of the block shall consist of merus meat in an amount not less than 20 percent by weight of the drained weight of the block. A minimum of 30 percent of the merus meat must be whole pieces. The remaining 70 percent may be split but should retain a minimum of 50 percent of the carotenoid layer. Merus pieces may have the ends trimmed. The merus meat shall be packed in a uniform arrangement.
2. The top of the block shall consist of mixed brown (red) and white meat. (The pieces of brown meat shall be packed with a minimum of light areas and voids).
3. The balance of the block shall consist of white meat in bite sized and shredded pieces. Not more than 30 percent of the drained weight of the block shall consist of crab meat which has been broken during processing into shreds.

B. Dungeness Crab meat in cans (usually five pounds) are units of cooked, ready to eat, frozen Dungeness Crab meat. When sampled in whole units these cans shall meet the following specifications:

1. The bottom of the can shall be packed with white meat consisting of bite sized and shredded pieces. Not more than 30 percent of the drained weight of the can shall consist of crab meat that has been broken during processing into shreds. The bottom layer will consist of 50 to 60 percent of the drained weight of the can.
2. The second layer shall consist of brown meat from the propodus, carpus and merus parts of the legs. The merus pieces will be too broken to qualify for the top layer. Propodus, carpus and meat from the claws will also be considered brown meat.
3. The top layer of the can shall consist of merus meat in an amount not less than 20 percent by weight of the drained weight of the can. A minimum of 30 percent of the merus meat must be whole pieces. The remaining 70 percent may be split but should retain a minimum of 50 percent of the carotenoid layer. Merus pieces may have trimmed ends. The merus meat shall be packed in a uniform arrangement.

Section 2: Quality Specifications for Frozen Alaska Dungeness Crab Meat Packed in Blocks or Cans

A. **Objective Evaluation:**

1. The thawed, drained weight shall not be less than 90 percent of the stated net weight of the frozen unit.
2. Extraneous Material: there shall be no more than five (5) major defects per pound total of any combination of, but not limited to, the following defects exceeding one-half inch in any single dimension: Shell, Barnacle, Pearl, Gill, Tendon, Grit. Three (3) incidents of small size defects are to be counted as one major defect as indicated above.

B. **Subjective Evaluation:**

1. Color: The color shall be uniform and characteristic of the species used. The brown color may vary from dark brown to a light brown, almost tan. The white color shall be white to creamy-white with some light grey areas allowable. A block or can shall have uniform brown and white color and be reasonably free of green, yellow, black or blue discoloration. Color variation from unit to unit is not considered, only within unit variation.
2. Flavor: When thawed, the flavor shall be typical of the species and may vary from bland sweetness to slightly salty, depending on the portion sampled.
3. Odor: When thawed, the odor shall be indicative of freshness as associated with fresh caught, cooked and chilled Dungeness Crab.
4. Texture: When thawed, the texture shall vary from the tender, moist, longitudinal fibers of the shoulder meat to the somewhat firmer, vertical fibers of the claw meat.
5. Dehydration: The crab shall be packaged and/or glazed to prevent dehydration during frozen storage. There shall be no dehydration which would adversely affect the quality or appearance of the product.
6. Appearance: The frozen block or can shall be symmetrical, with a minimum of unevenness and/or voids. There shall be no conspicuous areas of ice formation.

C. One sample in six may fall below the limitations described above and the lot may still be judged acceptable, provided the average of the samples still meets the specifications.

Part V: Methodology

Section 1: A Method for Determining the Thawed Drained Weight of Frozen Alaska Dungeness Crab Sections Packaged in Weights of Five Pounds or Less

A. **Procedure:** Official Methods of the 1980 Edition of the A.O.A.C., page 285, paragraph 18.001 (A) Glazed Seafoods: Remove package from low temperature storage, open immediately and place contents under gentle cold water spray. Agitate carefully so product is not broken. Spray until all ice glaze that can be seen or felt is removed. Transfer product to circular No. 8 sieve, 8″ in diameter (12″ in diameter for samples over two pounds). Without shifting product, incline sieve at angle of 17-20 degrees to facilitate drainage and drain exactly 2 minutes. Immediately transfer product to tared pan (B) and weigh (A). Wt. product = A – B.

Section 2: A Method for Determining the Thawed Drained Weight of Frozen Alaska Dungeness Crab Sections Packaged in Bulk Cases (Weights of Five Pounds or Over)

A. **Procedure:** Use scale accurate to 0.1 pounds for under 30 pound cartons; use scale accurate to 0.25 pounds for cartons over 30 pounds. Remove container(s) from cold storage, weigh immediately and record weight (A). Open container and remove a sample from the top, center and bottom of container. Weigh sample, and record weight (a). Remove ice glaze by spray or running water (80° F), use fingers to determine when ice removal is complete. (Do not hold sample under spray or water until surface becomes soft or thawed). Place de-iced sample on suitable size No. 8 mesh sieve at an angle of 17 to 20 degrees for exactly two (2) minutes. Weigh de-iced sample and record weight (b). Subtract de-iced weight from sample weight (a – b = c) to determine weight of glaze (c). Percent glaze (d) is weight of glaze divided by initial glazed weight of sample (c ÷ a = d). Subtract tare weight (B) from container weight (A) to determine gross infill (C). Multiply gross infill (C) by percent glaze (d) to determine weight of ice glaze for entire package (D). Subtract weight of ice glaze from gross infill (C – D) to determine net infill (E).

Section 3: A Method for Determining the Net Weight of In-Shell Frozen, Unglazed Alaska Dungeness Crab

A. **Procedure:** Official Methods of the 1980 Edition of the A.O.A.C., page 543, paragraph 32.051 (A) Unglazed Frozen Foods: Remove pacakage from low temperature storage, remove frost and ice from outside of package and weigh immediately (W). Open package and remove contents, including any product particles and frost crystals. Air dry empty package at room temperature and weigh (E). Weight contents = W – E.

Section 4: A Method for Determining the Meat Percentage for In-Shell Frozen, Glazed or Unglazed Dungeness Crab

A. **Procedure**: Select random sample (minimum 10 lbs.) in natural proportion to the lot represented. Determine net deglazed weight by methodology above. Allow to thaw at room temperature to an internal temperature of 40°F and weigh product in-shell. Carefully extract all meat and weigh.

B. **Calculation:**

$$\frac{\text{Extracted Meat Weight}}{\text{Deglazed In-Shell Weight}} \times 100 = \% \text{ Meat}$$

Section 5: A Method for Determining the Thawed Drained Weight of Frozen Alaska Dungeness Crab Meat Blocks or Cans In Excess of 1 Pound (Nondestructive)

A. **Equipment:**

1. Balance sensitive to 0.01 pounds or 1 gram.
2. US Standard No. 8 screen.
3. An accurate metal-stem thermometer.
4. A watch or timer.

B. **Procedure:**

1. Determine the gross weight of the bare frozen block or can.
2. Seal the block in a nonpermeable plastic pouch. Open the can if a can is being sampled.
3. Thaw in a refrigerator at 36° to 40° F (approximately 24 to 48 hours).
4. The point at which the thawing is complete can be ascertained by gently probing with a metal-stem thermometer. A temperature of 38° to 40° F ± 2° indicates complete thawing. When thawed, the container shall be carefully removed and the contents inverted onto a US Standard No. 8 screen. The screen is inclined 17 to 20 degrees to facilitate drainage, the meat is allowed to drain exactly two minutes and the weight is recorded. The weight less the tare weight of the screen is taken as the drained weight of the sample.

C. **Calculations:**

$$\text{Percent (\%) of Stated Net Weight} = \frac{\text{Thawed Drained Weight} \times 100}{\text{Stated Net Weight}} = \text{(90\% minimum)}$$