

KEEPING CRAB PLANTS CLEAN

Sanitary Standards for Maryland Crabmeat Quality Assurance Program

THOMAS E. RIPPEN, Seafood Technology Specialist, University of Maryland Sea Grant Extension Program

Crab processing plants that are members of the Crabmeat Quality Assurance Program (MCQAP), a voluntary program with partial funding from the industry, receive an extra level of sanitary inspection and education through Maryland Sea Grant. Almost two thirds of Maryland crabmeat processors belong to the program and their participation allows them to use the “Maryland label” on cans and plastic cups. Routine microbiological inspections conducted through MCQAP ensure compliance with state regulations and the guidelines of the Chesapeake Bay Seafood Industries Association. Reports of the inspection results are mailed to each participating processing plant, and may include recommendations if findings warrant changes in sanitation procedures. The information provided below is intended to further assist with interpretation of inspection reports.

Sample Type	Bacteria	State Regulation (maximum allowed)	MCQAP guideline
Fresh Crabmeat	APC* Coliforms** <i>E. coli</i> ** Staph# Listeria##	100,000/g 36/100g (0.36/g) Negative for <i>L. monocytogenes</i>	<50,000/g None detected (reported as <10) None detected (reported as <30) <500 None detected (reported as negative)
Pasteurized Crabmeat	APC AnPC@ <i>E. coli</i>	25,000/g 0	<5,000/g <5,000/g
Food Contact Surfaces	APC Coliforms <i>E. coli</i> Staph <i>Listeria</i>		<1,000 cfu/g None detected (reported as <10) None detected (reported as <30) None detected (reported as <10) None detected (reported as negative)
Non-food Contact Surfaces	<i>Listeria</i>		None detected (reported as negative)

Bacteria of Concern

**Coliforms, including *Escherichia coli* (*E. coli*), indicate unsanitary handling of crabs and crabmeat. The presence of these organisms indicates the need for improved hand washing and plant cleaning and sanitizing procedures.

Staph (*Staphylococcus aureus*) is an organism most commonly found on human skin, especially the face and nose. The presence of Staph indicates the need for improved employee hand washing and sanitizing. Employees should also avoid touching other parts of the body. Infected cuts on hands are another source of contamination and must be healed or fully covered before processing. Staph can occasionally grow on processing equipment so any persistent Staph counts require further study.

Listeria is an organism that should not be present in a thoroughly cleaned and sanitized plant, although persistent cases can be difficult to resolve. The bacterium, *Listeria monocytogenes*, causes severe, sometimes fatal, illness in humans and is not allowed in crabmeat at any level. The presence of *Listeria* indicates the need to implement a thorough plant cleaning and sanitizing program using appropriate chemicals and appli-

cation methods. For more information on controlling *Listeria* in crab processing plants, visit the web at: www.mdsg.umd.edu/Extension/listeria.html.

Methods Used to Count Bacteria

* Aerobic Plate Count (APC), the approximate total number of bacteria per gram of crabmeat or, if a swab, sample per square inch of equipment surface.

@ Anaerobic Plate Count (AnPC) is performed on pasteurized crabmeat and, like APC, is a measure of the total number of bacteria present. Elevated APC or AnPC numbers in pasteurized crabmeat have several possible causes, requiring further study.

Best Industry Practices

1. Avoid recontaminating cooked crabs or crabmeat.
2. Use proper cleaning and sanitizing procedures.
3. Follow strict employee hygiene practices.
4. Limit picking time to 2 hours.
5. Cook thoroughly. Although uncommon, high APC's may also result from under-cooked crabs.

For answers to questions about the Maryland Crabmeat Quality Assurance Program, contact either:

Tom Rippen
Maryland Sea Grant Extension Program
Center for Food Science and Technology
University of Maryland Eastern Shore
Princess Anne, MD 21853
(410) 651-6636, (410) 651-8498 fax
terippen@umes.edu

Bill Sieling , Executive Director
Chesapeake Bay Seafood Industries Association
110 Severn Ave
Annapolis, MD 21403
(410) 507-3249
cbsia@aol.com



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