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FISHERIES CONSULTANTS

CONSULTANTS TO THE AQUACULTURE AND SEAFOOD INDUSTRY

**S. A. Oyster Growers Association
Oyster Quality Assurance Workshop**

Port Lincoln, 18 September 1993

Project Management by

South Australian Fishing Industry Skills Centre Inc.

Foreword

The work material and reference notes in this booklet have been specially prepared for the members of the SA Oyster Growers Association for a Quality Assurance workshop and program.

They are not intended for general use.

Introduction

This workshop has been designed to provide the participants with an introduction to quality management as it relates to oysters and to the documentation of a quality management system. Knowledge and basic skills in these areas should be gained through discussion sessions and various group exercises in which all participants are expected to join.

By the end of the workshop participants should be able to specify the key quality features of oysters, differentiate between quality control and quality assurance (QA) and be able to develop a process flow chart and a hazard table as part of a quality manual for their business.

The participants should then be able to build on this workshop's basic training to formulate their own quality standards and policy, and develop a formal quality management system and quality assurance manual specific to their own business operation. The Association's model quality assurance manual and other printed (and video) guide material on quality management can be used by participants to assist in preparing their own unique manual.

A Q.A. manual should not be seen as a final or fixed document, it is a living document which should be used and reviewed regularly. It will need revision and updating whenever the quality specifications, personnel or the procedures in the organisation are changed.

Notes

Quality

Why

Specifications for oysters

Quality Policy

Notes

Process Flow Charting (example on lobster is in Appendix)

This can easily be done by first listing all steps in the process, including minor ones, and any unavoidable delays in the usual procedure. This information can be recorded in a process flow chart information sheet, as on the following page.

Alongside each step list any equipment or materials that are used in that step and the people and location involved. The steps are then classified and drawn as operations, inspections, transportation, delays or storage using standard symbols as shown below.



INSPECTION. An inspection occurs when a material is examined for identification or is verified for quality or quantity in any of its characteristics. It provides control of the process, but does not take the material any nearer to completion.



OPERATION. An operation occurs when a material is intentionally changed in any of its characteristics; or is arranged for another operation, transportation, inspection or storage. An operation also occurs when information is given or received or when planning or calculating takes place. Examples are pasteurising, frying, mixing.



COMBINED ACTIVITY. When it is desired to show activities performed either concurrently or by the same operator at the same work station, the symbols for those activities are combined, as shown by the circle placed within the square to represent a combined operation and inspection.



TRANSPORTATION. A transportation occurs when a material is moved from one place to another, except when such movements are a part of the operation or are caused by the operator at the work station during an operation or an inspection. Pumping is an example.




DELAY. A delay occurs to a material when conditions, except those which intentionally change the physical or chemical characteristics of the object, do not permit immediate performance of the next planned action.



STORAGE. A storage occurs when a material is kept and protected against unauthorised removal.

Process flow chart information sheet

Process Step		Equipment/ materials	People / location

In drawing up a flow chart, beside each symbol

- * the operation or step, including any special items of equipment
- * the inspections or checks performed, and their frequency (daily, hourly etc)
- * the name or reference number of record sheets used to perform the checks or inspections
- * who is performing the checks and inspections

is noted.

Prepare a Hazard Table :

Identify any potential risks or hazards associated with the raw materials, other materials, processing, storage, packing or transport of the product

Use the process flow information and chart and the identified hazards to prepare a hazard audit table (on next page) summarising the hazards and the critical control points. Take account of the materials, the procedures (including time and temperature) the people and the places they are working in.

In the Quality Manual each critical control point should be specified in terms of :

- (a) a standard or customer specification
- (b) a monitoring procedure(s)
- (c) a corrective action system
- (d) a record keeping system

The Canadian fish Quality Management Program defines a critical control point as:

a point in time or a physical location in the process at which failure of preventative measures will expose the consumer to unacceptable risks related to tainted, decomposed or unwholesome fish products or economic fraud.

Notes

Records

Corrective action and recalls

Training

Reviews

Where to Next *How to Progress*

1. Commitment

Make a decision and commitment to start on the QA path.

Top level commitment and involvement is essential for success

2. Form a quality development team at work

Gather a small group and start reviewing various quality guidelines such as AQIS and ASA and your existing quality management practices and develop a plan and timetable.

3. Training

Management and key staff should gain further training in Quality management via ASA, AOQ or other training materials (printed material and video) or through attendance at various short programs (1-3 days).

4. Develop a Quality Manual

Develop a quality manual documenting policy, procedures etc in such a way that it meets the requirements of the company or agency you wish to satisfy eg Customers, AQIS , ASA/ISO.

Develop associated Work instruction and Testing manuals as required.

5. Internal Audit of Quality System

Carry out an audit of your system and manual. Are your procedures right ? Are you doing each procedure the right way ?

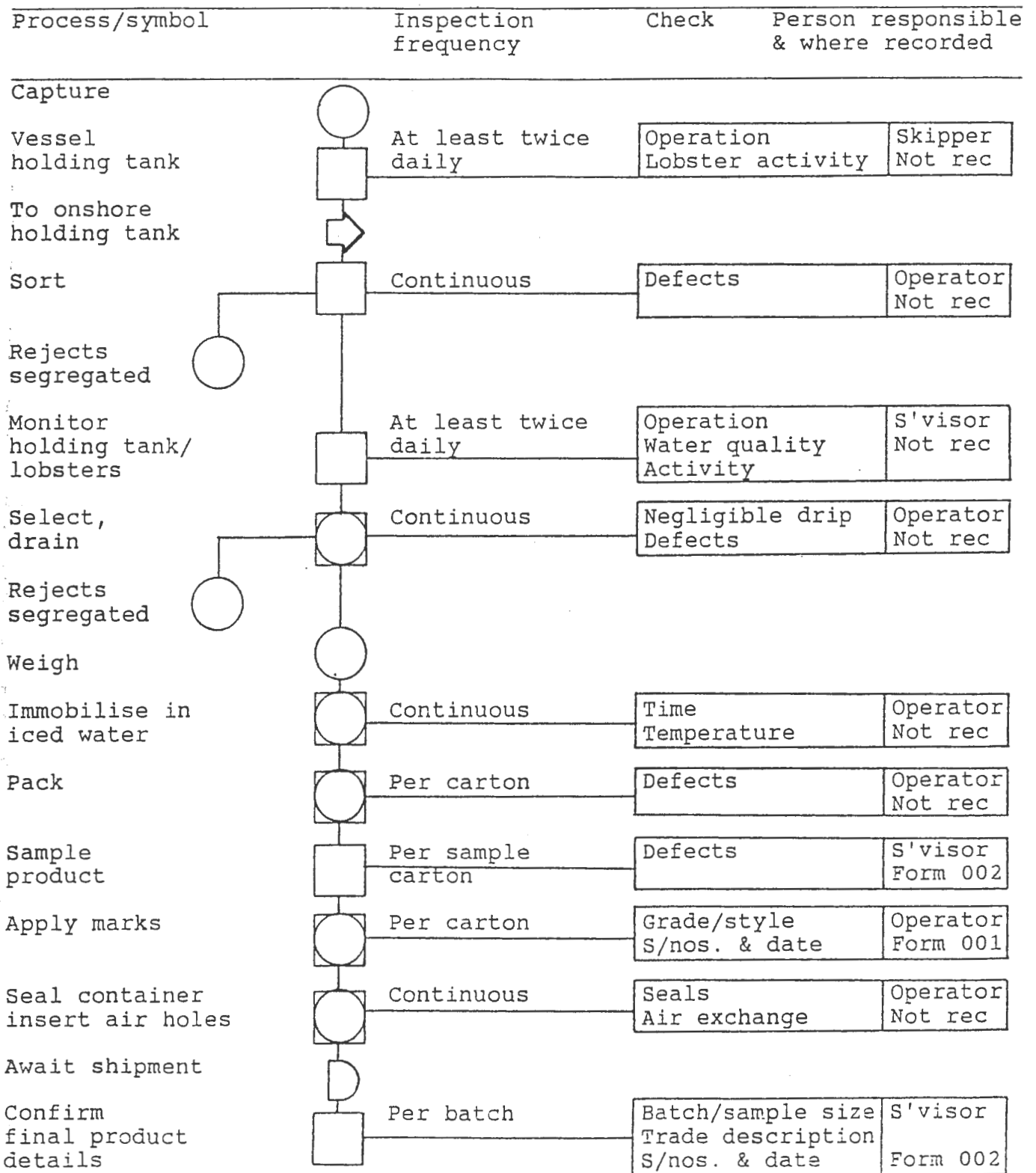
6. Assessment and improvement of System

Engage a quality registrar or consultant to assess the quality system and advise on any major problems evident in the system

7. Assessment

Arrange for an assessment of your system by the agency of your choice, eg AQIS, ASA, Lloyd's etc .

PROCESS CHART FOR LIVE ROCK LOBSTERS



HAZARD AUDIT TABLE FOR LIVE ROCK LOBSTERS

Critical operation	Potential risk	Critical control point	Preventive, control & monitoring measures	Corrective action
Capture	Death or damage from shock	Handling procedure	Ensure lobsters are handled gently (not left in sun) and placed immediately in holding tank	Assess suitability for live export; cover immediately. Review handling procedures & train deckhands
Holding (vessel & on-shore)	Death or damage from aggression or polluted water	Holding conditions	Monitor water quality and effectiveness of aeration/water exchange. Ensure holding time is >48 hours to ensure fitness for shipment	If water quality deteriorates, assess lobster activity. Increase aeration or water exchange. Monitor system half-hourly until activity normal
Immobilising in ice	Lobsters still active	Time, temp	Use ice slurry, measure temperature (-1 to 20°C). Ensure lobsters are shocked for 10 to 30 seconds	Add more ice. Stop packing until ice slurry is at correct temperature
Packing	Death or damage from incorrect packing	Handling, materials	Ensure packaging materials are pre-chilled. Handle gently. Ensure there are no delays from immobilising to packing. Ensure air exchange holes are correct size. Pre-arrange export details to minimize delays.	In the event of delay, place cartons in cold store at 2-5°C. If delay will exceed 6 hours, unpack & return lobsters to holding tank

MICROBIOLOGICAL STANDARDS

NSW has adopted a system of mutual recognition for food law and therefore any laws incorporated into the National Food Law and automatically law in NSW and it is understood that this also applies to South Australia.

The latest suggestions for Oysters as proposed by National Food Act are:

Using a 5 part sampling system where each part contains 10 oysters:

Standard Plate Count	4 of 5 samples	<100,000 cfu/g
	1 of 5 samples	<500,000 cfu/g
<u>E. coli</u>	4 of 5 samples	< 2.3 cfu/g
	1 of 5 samples	< 7 cfu/g

This will apply to all oysters regardless of when they are taken for testing and regardless of whether they have been purified or not.

OVERSEAS REQUIREMENTS Microbiological Requirements

USA : Sanitary survey of water
jointly by AQIS and state authorities
Water Quality
various levels which give unrestricted through to
totally prohibited classifications.

European Community
: End Product testing
very similar to Australia but includes a Salmonella
Nil tolerance in 25g of flesh

Japan:
End Product testing
slightly more restrictive than Australia with respect to
Standard Plate Count

In all cases there is either agreement or negotiated agreement that AQIS and the state authorities organise a "Health Certificate" which is acceptable to the importing country

There are some chemical requirements included in the regulations and the presence of biotoxins from dinoflagellates and other algae are becoming a concern to all importing countries as well as to the domestic market.