LDIR#042

CRAB AND SALMON QUALITY CONTROL IN FISH PROCESSING SB 112 1965

Juneau, Alaska
March 9, 1965

Statement made before the Finance Committee of the Alaska State Senate hearing held March 9, 1965, by Frank Wright, Jr., representing the Association of Pacific Fisheries. The Honorable Senator Howard Bradshaw, Chairman.

The Association has members who are for parts of this Bill (Senate Bill 112 as amended) and others who are violently opposed to it.

We feel this same situation applies within the King Crab Institute and other packers of King Crab.

We feel, also, that you should be advised of already existing facilities that would be duplicated by this Bill, and we therefore have asked Mr. Walter Yonkers, Manager of the Northwest Research Laboratory of the National Canners Association to talk to you about these and the costs involved.

There are packers in our Association who are involved in heavy advertising who also believe that this type of Bill is duplicating work being done by them, our Association and the National Canners Association.

In view of statements made implicating the Canned Salmon Industry we felt that we must enter the picture on this Bill, as there is a large segment of that Industry who are absolutely opposed to this type legislation because the Canned Salmon Industry is making every attempt to take care of its own quality, promotion and advertising. They feel this type work is something Industry should take care of themselves, rather than through legislation.

This type Bill is too complex and cumbersome, involving considerable financial burdens for the State to act upon too quickly.

In view of these facts, we would recommend further deliberations and study of this matter. At the present time we understand the Governors' Conference held in Juneau in November of 1964 have committees working on these matters which should be available before any definite action is taken.

Frank Wright Jr

STATE OF ALASKA

WILLIAM A. EGAN, GOVERNOR

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL / BOX 2170 — JUNEAU 99801

March 5, 1965

M E M O R A N D U M

TO: Senator Al Owen
Alaska State Legislature

FROM: Warren C. Colver
Attorney General

RE: C.S. for S. B. No. 112

Pursuant to our discussion this morning I suggest the following language for Sec. 18.90.170:

> "Sec. 18.90.170. MONEY EXPENDED. Appropriations for expenses of the board shall not exceed the amount of money collected under this chapter through assessments and contributions."

I called the Department of Administration and discussed Sec. 18.90.160 and was advised by Mr. Freer that as a practical matter if the Legislature required the money collected under the proposed bill be deposited in a special account and named the account as it is named in C.S. for S.B. No. 112, the Department of Administration would feel obligated to use the account only for the purposes of the Act. In other words, the law would not make the fund a dedicated one but the administrative practice would. This could very well cause difficulties with the bill and it is entirely possible that Sec. 18.90.160 could be successfully challenged on constitutional grounds. I think a much safer approach would be to use language like the following:

> "Sec. 18.90.160. MONEY COLLECTED. All money collected by the commissioner under this chapter shall be deposited in the general fund. The commissioner shall report to the legislature the amount of money collected and deposited in the general fund under this

TRANSCRIPT OF TESTIMONY BY MR. WALTER P. SHARP OF KADIAK FISHERIES, INC. BEFORE THE HOUSE FINANCE COMMITTEE ON CSSB 112, APRIL 3, 1965.

(The following initial testimony occurred during a general discussion following the testimony of Mr. Turner.)

Mr. Sharp: Mr. Chairman, there is a little confusion on this point. Number 1, over 51% of the crab in a normal year - king crab - goes into cans, but the largest number of processors are not canners. When you start talking about the poundage basis, you've got two factors that you are looking at. Number 1, the ones who are canning have quality control; they have inspection; they have all these things built in already. The other people don't. We are paying for that already. We have our own organization, we have our own organization of advertising, so what we are being asked to do here is to start in on some kind of quality control - and look at the amount of money that's in this bill that you're talking about - $80,000 - and you've got eight or ten floating ____?____. Some of them don't touch in Alaska. They bring their product back to Seattle. How in the Lord's name are you going to control this product without somebody right there? When it gets out of here, you've lost it. Now there are two of these companies that have established canning facilities down in the State of Washington. It's Alaska king crab. From the advertising, you can't tell whether it's canned in Alaska or not. The majority of these operators who are operating in Alaska are not canning frozen crab. They are canning fresh crab. So we do have a situation where we are taking care of - of the - which theoretically in a normal year - when these canneries get back in production that were washed out in

canned salmon institute

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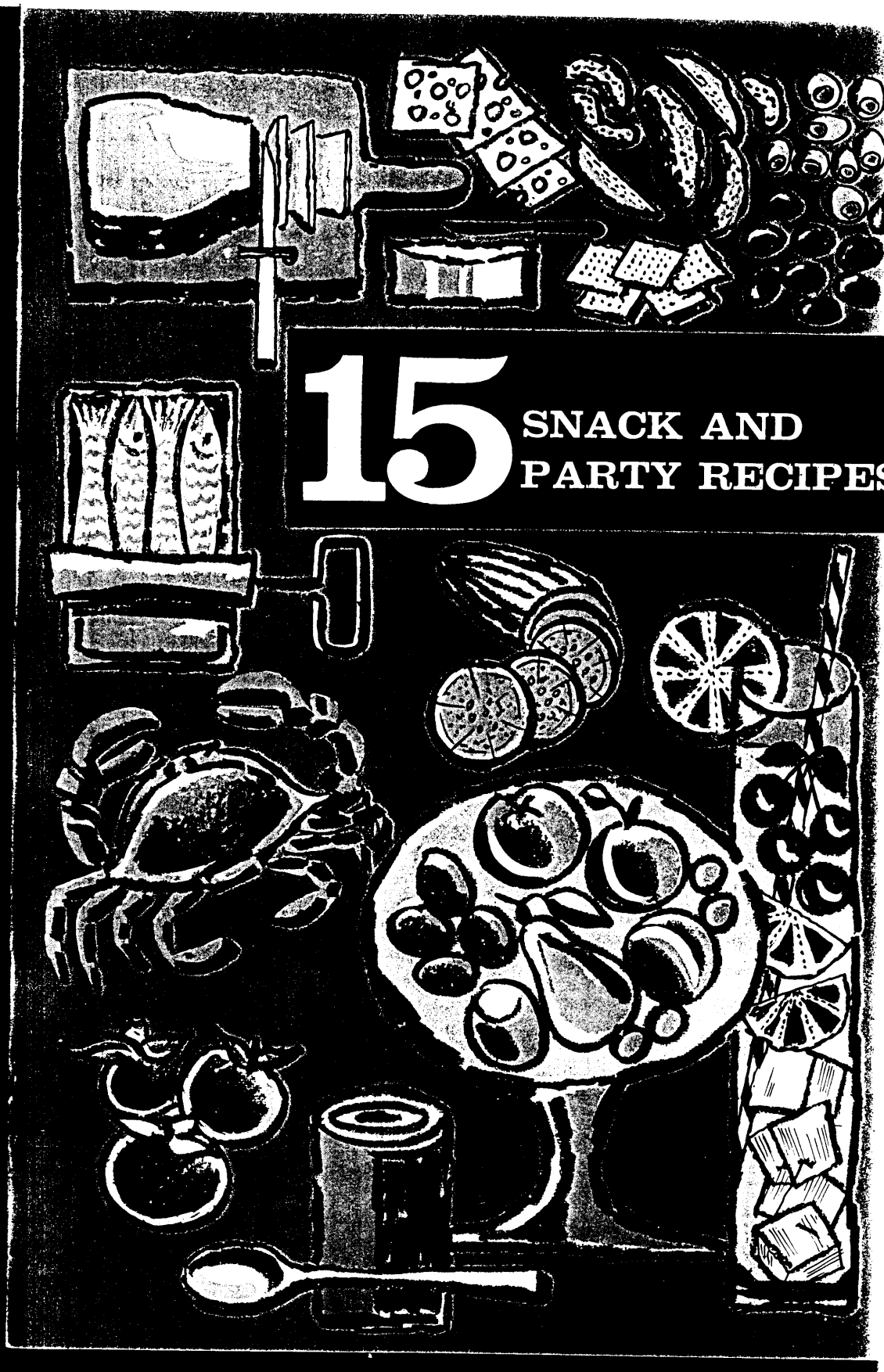
National Canners Association
Attn: Mr. Walter Yonker, Mgr.
1600 S. Jackson St.
Seattle, Wash. 98144 CSI-1



15 SNACK AND PARTY RECIPES

QUANTITY RECIPES

for institutional food service

FOCUS ON CANNED FOODS

THE CANNERY SANITATION PROGRAM

BULLETIN 33-L

NATIONAL CANNERS ASSOCIATION

RESEARCH LABORATORIES

1964 annual report

of the executive vice president

NATIONAL CANNERS ASSOCIATION
1133 20TH STREET NORTHWEST
WASHINGTON 6, D. C.

RESEARCH LABORATORIES

Recommendations for Post-Processing Can Handling

Scope

These recommendations apply to the handling of cans during and after cooling, including labelers, twisters, etc., and to the design, construction and operation of the post processing can handling equipment.

Purpose

1. To serve as a guide to builders of post processing can handling equipment.

2. To serve as a guide to canners.

3. To serve as a guide for modification or alteration of present post processing can handling equipment.

New Developments

It is intended that this recommendation shall allow and encourage freedom for inventive genius and new developments. Equipment developed which is different in design, material, construction, or in other features which are, in the opinion of the manufacturer or fabricator, equivalent or better, and which accomplishes the desired results, may be substituted at any time.

General

Food preservation by heat processing in cans depends upon the fulfillment of two conditions: 1) the destruction by heat of bacteria capable of spoiling the food product, and 2) the prevention of bacterial recontamination of the product by means of the sealed container. Although heat processes have been developed that will insure the destruction of spoilage organisms normally present in the canned product, there remains the hazard of re-entry of spoilage bacteria during post processing can handling operations.

The advent of double reduced tinplate and aluminum cans calls for a fresh approach to can handling methods. Also the trend in modern canning practice has been toward higher final vacuums in canned foods. Subsequent to the heat processing operations, the canned product is usually cooled by water. During the cooling operations, the filled cans go from pressure to vacuum and, in most instances, enter automatic or semi-automatic can handling lines. When filled cans are handled in automatic equipment at high speeds, small deformations of the seams may be more significant as spoilage factors than they are under slow speed, low impact conditions.

Spoilage Factors

1. The quality of the can double seams.

2. The presence of bacterial contamination in cooling waters or on wet runways.

3. Excessive abuse due to poor operation or adjustment of the filled can handling equipment.

Operating Precautions

1. Inspect can seams frequently to insure that they are properly formed and that seamer adjustments have not exceeded tolerances.

2. Periodically inspect the can handling system from the closing machine to the caser. Where rough handling of the cans is apparent, smooth out the operation to minimize can seam and body damage. Roll in casers must be adjusted carefully to prevent violent can to can contact or can seam to can body contact.

3. Do not allow cans to drop freely into crates from closing machine discharge tables.

4. Do not overfill the retort crates. This will eliminate protruding cans which could be crushed by the crate bales or by crates placed on top of them in the retort.

5. Prevent sharp impacts between filled crates or against protruding points.

6. Operate crate dumps smoothly to prevent impact denting.

7. Chlorinate all cooling waters to a point where there is at least one part per million chlorine residual at the discharge end of the can cooler. If chlorination renders the water corrosive, use a suitable corrosion inhibitor.

8. Thoroughly scrub and sanitize all tracks and belts which come into contact with the can seams at intervals frequent enough to prevent bacterial build-up.

9. Replace all worn and frayed belting, can retarders, cushions, etc., with new non-porous material.

10. Run cans through a can dryer immediately on leaving the cooling system or tip the full retort baskets to drain water trapped on can ends and allow the cans to dry in the retort crates before discharging into the can handling unit to lessen the recontamination hazard.

High velocity air blasts over the body and ends of cans removes excess water and maintains dry can tracks. Dry conditions do not encourage the development of bacterial contamination.

Bacteria may develop on can handling equipment in a film of water, lubricants or other material. Bacterial contamination of the contact point of the can body and double seam can be significant and drying methods that permit contamination and then remove visible water but leave contaminated water at this point, may not be sufficient.

Chlorinated cooling water (Item 7) will tend to depress bacterial numbers on wet can runways after cooling, but the effect rapidly dissipates in relation to the distance of travel from the cooler.

11. Deliberate wet conditions can be tolerated by continuously running or spraying a sanitizing solution of water containing 3 to 5 ppm of free residual chlorine on the can tracks. Adequate control of continuous drippage must be provided and the cans must be dried before entering the labeler.

12. Can transporting belts and elevators, unless completely dry, should be continuously sprayed at the beginning of the return with water containing 3 to 5 ppm of free residual chlorine.

Sanitary Design

Under present day production pressures, filled and sealed can handling equipment must be designed to minimize pick-up of bacterial contamination around the double seams. The design must also prevent shock, strain, or even small denting of the cans, particularly on or near the seams. This may cause aspiration of minute amounts of moisture even through well made seams. Spoilage may result if the moisture contains bacteria. The engineering and design objectives of post processing can lines should include the above considerations: 1) minimize contamination, and 2) prevent shock, strain and denting (rough handling). The following are recommendations to help accomplish these objectives:

1. Keep handling to a minimum. All switchbacks, quarter turns, lowerators and other changes of can direction or orientation should be engineered according to can speed, size and weight to minimize strain. In general, sharp reversals of direction should be avoided. Quarter turns should have a long radius to handle the cans gently.

2. The need of "bumpers" should be avoided, but where necessary they should be of non-absorbent, easily cleaned material. Fabrics, wood or absorbent core belting are not satisfactory as they will support high bacterial populations that cannot be

THE CHLORINATION OF WATER

Chlorination of domestic, public, and private water supplies has been carried on for many years as a safeguard against water-borne diseases. In recent years chlorination of industrial water has become a common practice in food processing plants as a means of improving plant sanitation.

CHLORINE COMPOUNDS

Gaseous Chlorine

At atmospheric pressure chlorine is a greenish-yellow gas about 2-1/2 times heavier than air. Because of this greater density it will flow to the lower levels of a room or building. Chlorine is non-inflammable and non-explosive, but reacts chemically with many substances and may cause a fire or explosion when in contact with combustible materials. In the presence of moisture it is very corrosive to common metals. Chlorine is only slightly soluble in water (see Table 17-3), the maximum solubility being about 1% at 49.2° F (9°C). As the temperature increases the solubility decreases until it is zero at the boiling point of water. Below 49.2° F (9°C) chlorine combines with water to form crystalline hydrates commonly known as chlorine ice.

For commercial distribution, chlorine is compressed to a liquid and transported in steel cylinders. Because of the incompressibility of liquid chlorine and its high rate of expansion on heating, a headspace of about 12% is left in all "full" cylinders as a safety precaution against their fracturing from excess pressure. This amount of headspace will take care of any expansion which may result up to a temperature of about 150°F.

Chlorine cylinders of from 100 pounds to 30 tons (tank car) capacity are available. For industrial use where the daily requirements are less than 50 pounds per 24 hours, 150 pound cylinders are recommended. For plants with a greater requirement than this, there is usually an advantage in purchasing chlorine in 1 ton cylinders, even though they are much more difficult to handle.

Hypochlorites

Calcium and sodium hypochlorites are widely used for chlorination of industrial waters. The sodium hypochlorites are sold as liquids, while the calcium hypochlorites are sold in the powdered form. These compounds are prepared by treating the respective alkalis with chlorine gas, and the degree of this chlorination determines the per cent of available chlorine. In the case of calcium hypochlorites, the tendency of the powders to cake is related to the impurities in the lime. The names and chlorine content of various chlorine compounds are given in Table 17-1.

The following precautions are necessary in the storage of hypochlorites:

1. Containers for the dry calcium hypochlorites should have tight seals and should be stored in a cool, dry place, because the chlorine is loosely combined.

AN INFORMATION BULLETIN ON RETORT OPERATION

BULLETIN 32-L

NATIONAL CANNERS ASSOCIATION
Research Laboratories
June, 1959

NATIONAL CANNERS ASSOCIATION

Northwest Branch Seattle 44, Washington

CONTROL OF NET WEIGHT FOR CANNED SALMON

R. B. Lee

The canned salmon industry has a very real interest in the control of the net weights of its production. Due to the recent decreases in the catch of salmon, it is extremely important that the greatest yield possible be obtained from the available fish. This consideration becomes doubly important when the present increased labor and material costs are considered.

A careful estimate made by one packer based on the 1959 production of canned salmon indicated that the canned salmon industry could have increased its net income by $500,000 in 1959 if the canners had instituted a good system of control of fill-in weights.

Weight control is also important in order that the canner does not pack short-weight cans in violation of the U. S. Food and Drug Administration regulations. The net contents regulation for canned salmon consists of two requirements. First, the net contents of the can shall be equal or greater than the label weight and second, that the container be 90% filled.

With the economic and regulatory considerations in mind, it is obvious that the industry should make every effort to fill to an acceptable weight with as little variation from can to can as is possible.

In actual practice the canner needs a method of sampling during the canning process which will indicate that the average net weight of the entire production is at the desired level and also indicate if the variation in net weight is not so great that at times he is

RESEARCH LABORATORY REPORT

NO. S-60-NW

Recommendation for Canning North Pacific Pink Shrimp

by

W. V. Yonker
D. M. Crosgrove
Dr. G. Ivor Jones
R. B. Lee

February 15, 1961

National Canners Association
Northwest Branch
1600 Jackson Street
Seattle 44, Washington

NATIONAL CANNERS ASSOCIATION

Research Laboratory Seattle, Washington

May 15, 1961

CANNING OF DUNGENESS CRAB

W. V. Yonker

INTRODUCTION

Dungeness crab (Cancer magister) is the common crab of the Pacific Coast and is fished commercially from Northern California to Alaska. Dungeness crab lends itself well to canning because the preparation costs are not too high and the crab does not discolor greatly when canned.

REGULATIONS

No Federal definition or standards of identity has been promulgated for canned crab meat. Packers shipping interstate must comply with the general provisions of the Federal Food, Drug and Cosmetic Act.

RAW MATERIAL HANDLING

CATCHING

Dungeness crab is caught in baited traps. The catch from each trap is placed in live tanks in the hold of the fishing boat. These tanks have circulating seawater to keep the crabs alive until delivery at the cannery.

Some boats make daily deliveries to the canneries and therefore do not use live tanks.

RECEIVING

The crabs are taken from the live tanks and are placed in live boxes at the cannery. These boxes are equipped with circulating sea water. If the cannery intends to process crab immediately this step is omitted.

PREPARATION FOR CANNING

BUTCHERING

Only fresh live crabs are used for canning. The crabs are butchered and cleaned prior to pre-cooking. The back shell is pulled away by hooking the shell on a stationary hook and giving a sharp jerk or by cutting the crab in half on a stationary knife. The complete viscera is then removed.

WASHING

The butchered crabs are washed in an adequate supply of fresh clean running water to remove all traces of viscera, blood and gills from the butchered parts of the crab.

REPORT OF COMMITTEE

SENATE

_____ 19 __

Mr. President:

The Committee on _____ has had

_____ under consideration and a majority of the committee --

- ☐ recommends it do pass
- ☐ recommends it do not pass
- ☐ recommends it do pass with attached amendment(s)
- ☐ recommends it be replaced with Committee Substitute for _____ and that CS for _____ do pass.
- ☐ (and) recommends it be referred to the _____ Committee
- ☐ reports it back without recommendation
- ☐ (other) _____

CONCURRING IN THE MAJORITY REPORT:

_____ _____ _____

_____ _____ _____

_____ _____ _____

NOT CONCURRING IN THE MAJORITY REPORT:

_____ recommends:

_____ recommends:

_____ recommends:

_____

CHAIRMAN

CLOSING

Mechanical vacuum closure is generally used.

FILLED CAN WASHING

The filled and closed cans are washed in a cold water spray to remove bits of crab from the outside of the cans.

PROCESSING

It is important that there be as little delay between can closing and processing as is practicable.

The cans are processed in steam retorts at a temperature of 240°F. for 55 minutes.

COOLING

After processing, the cans are promptly water cooled until the average temperature of the contents reaches 95°F. to 105°F.

GENERAL

Only live crabs are used for canning as dark enzymatic discoloration of the flesh occurs following death.

Stainless steel or aluminum equipment is used throughout the preparation of the raw product.

SANITATION

Crab is an excellent medium for growth of spoilage bacteria, and it is therefore handled rapidly during all operations. Bacterial contamination of the equipment is kept at a minimum by frequent and thorough cleaning. The use of wooden equipment is generally avoided.

NATIONAL CANNERS ASSOCIATION

Research Laboratory Seattle, Washington

June 22, 1961

CANNING OF KING CRAB

W. V. Yonker

INTRODUCTION

King crab (Paralithodes camtschatica) has been given increased attention in recent years by seafood canners of Alaska. At the present time this crab is being handled commercially from Southeastern Alaska to the Alaskan Peninsula by American canners and in 1960 this industry produced approximately 90,000 cases on the basis of 48 half pound cans per case.

REGULATIONS

No Federal definition or standards of identity have been promulgated for canned King crab meat. Packers shipping in interstate commerce must comply with the general provisions of the Federal Food, Drug and Cosmetic Act and individual state laws and regulations.

RAW MATERIAL HANDLING

CATCHING

King crabs are generally caught in baited traps. The catches from these traps are placed in tanks aboard the fishing boat or cannery tender. These tanks have circulating seawater to keep the crabs alive until delivery to the cannery.

Some boats make daily deliveries to the canneries and do not use live tanks. King crabs will remain alive for a considerable period of time out of the water, especially if kept wet with seawater or covered with sacks soaked with seawater. This procedure should be used with caution, however, as the crabs build up toxic products in their bodies under these unnatural conditions and the quality of the canned product from these crabs may be inferior.

RECEIVING

The crabs received from the fishing boat or tender at the cannery are usually placed in live boxes with circulating seawater. If the cannery intends to process the crab immediately, this step is omitted.

PREPARATION FOR CANNING

BUTCHERING

Only fresh live crabs are used for canning. The use of dead crabs for this purpose will result in a discolored product. The live crabs are butchered and cleaned prior to pre-cooking. The back shell

CHECK LIST FOR

SANITATION SURVEY

NATIONAL CANNERS ASSOCIATION

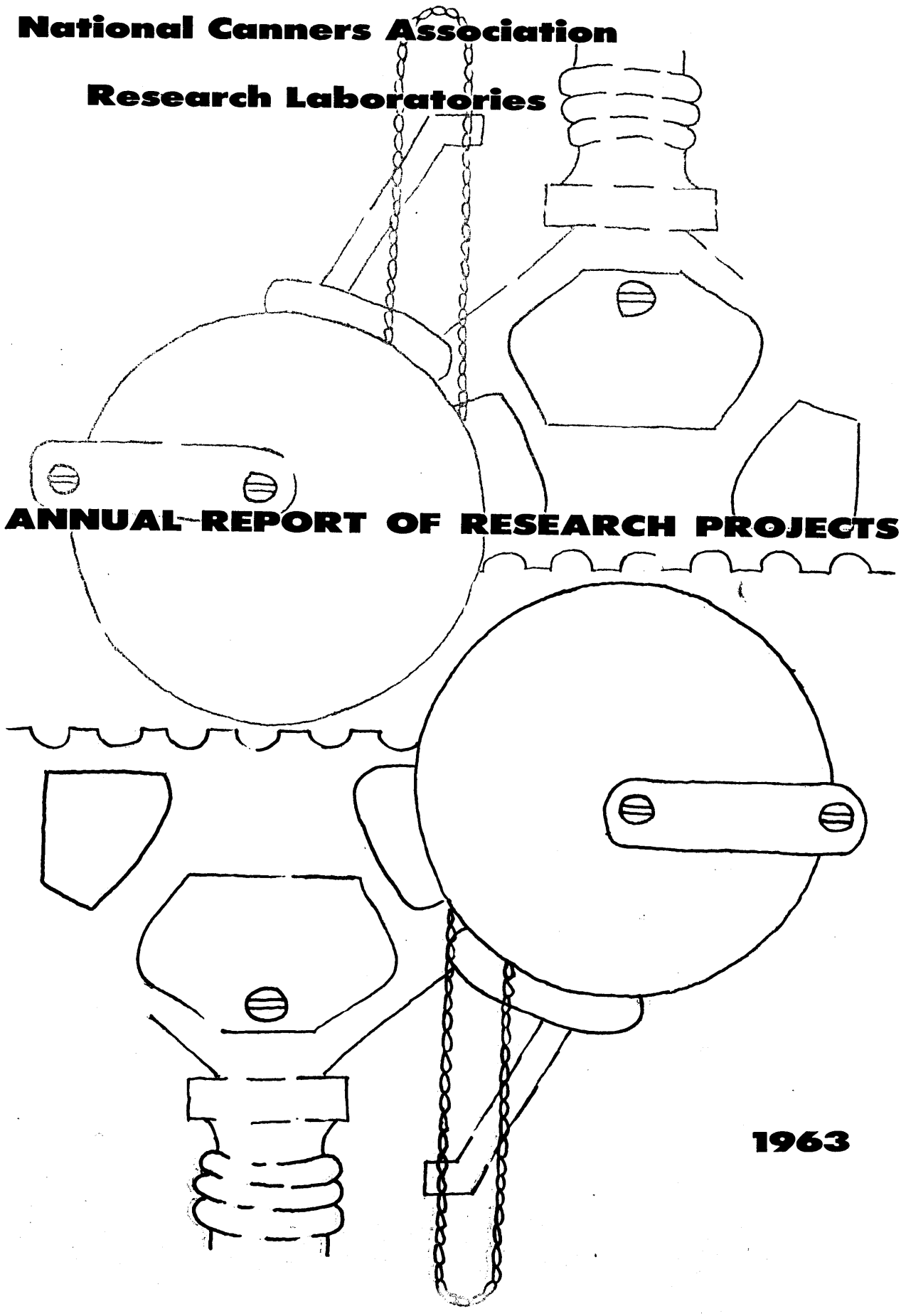
RESEARCH LABORATORIES

Berkeley, California Seattle, Washington

Washington, D.C.

National Canners Association

Research Laboratories



ANNUAL REPORT OF RESEARCH PROJECTS

1963

1600 SOUTH JACKSON ST.
SEATTLE 44, WASH.
EAst 3-3540

NATIONAL CANNERS ASSOCIATION

NORTHWEST RESEARCH LABORATORY

LABORATORY RECORD OF EXAMINATION FOR CANNED CRABMEAT

LAB. NO. _____ SHEET NO. _____ BRAND _____ SIZE OF CAN _____

PACKER _____ CANNERY _____

W/R NO. _____ STORED _____ NO. CASES _____

ENAMELED BODIES _____ ENAMELED ENDS _____ INSIDE ENAMELED _____ PARCHMENT DISC _____

DATE EXAMINED _____ CONDITION OF CANS _____ TYPE KING _____ DUNGENESS _____

SAMPLES DRAWN BY _____ EXAMINER _____

CAN NO.	CODE	NET WEIGHT	VACUUM INCHES	pH	NET DRAINED WEIGHT	FILLING	COLOR	CLEANING	SALTING	ODOR
1		.		.	.					
2		.		.	.					
3		.		.	.					
4		.		.	.					
5		.		.	.					
6		.		.	.					
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22		.		.	.					
23		.		.	.					
24		.		.	.					

LEGEND: G — GOOD
BTA — BETTER THAN AVERAGE
A — AVERAGE
PTA — POORER THAN AVERAGE
V. SL. B. = VERY SLIGHT BLUING
SL. B. = SLIGHT BLUING
B. = BLUING
M. B. — MARKED BLUING

AVERAGE NET DRAINED WEIGHT _____ OZ.

INCUBATED _____ DAYS AT 98°F

PP-S-0031d(INT-FWS)
November 3, 1964
Interim Revision of
Fed. Spec. PP-S-31c
February 3, 1954

INTERIM FEDERAL SPECIFICATION

SALMON, CANNED

This Interim Federal Specification which was developed by the Bureau of Commercial Fisheries Technological Laboratory, U. S. Department of the Interior, Glouchester, Massachusetts, is based upon currently available technical information. It is recommended that Federal agencies use it in procurement and that they forward recommendations for changes to the preparing agency at the address shown above.

The General Services Administration has authorized Federal agencies to use this Interim Federal Specification as a valid exception to Federal Specification PP-S-31c.

1. SCOPE AND CLASSIFICATION.

1.1 Scope. This specification covers the requirements for the method of preparation and packaging of canned salmon for use by agencies of the Federal Government.

1.2 Classification. Canned salmon shall be of the following styles and forms as specified (see 6.1).

Style 1. Skin and bones included.
Style 2. Skinned and backbone removed.

Form a. Regular.
Form b. Dietetic. The sodium content shall be not more than 60 mg per 100 grams of drained flesh.

2. APPLICABLE SPECIFICATIONS, STANDARDS, AND OTHER PUBLICATIONS.

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids, form a part of this specification:

Federal Specification:

PPP-C-29 - Canned Subsistence Items, Packaging and Packing Of.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbcoks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-668 - Minimum Sanitary Standards for Food Establishments.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

FSC 8905

Better Salmon Control Plan

AND 1941 AND 1954 SUPPLEMENTS
CODIFICATION OF ORIGINAL PLAN

A Voluntary Industry Program for the Improvement of Its Product.

National Canners Association
NORTHWEST RESEARCH LABORATORY
SEATTLE, WASHINGTON
1962

NORTHWEST RESEARCH LABORATORY

PROJECT OUTLINES FOR 1964

PROGRESS REPORTS FOR 1963

National Centers for Atmospheric Research
Northwest Research Laboratory
1600 S. Jackson Street
Seattle, Washington 98144

NORTH STAR BOROUGH