

FUNCTIONAL PERFORMANCE AND SELECTED CHEMICAL AND PHYSICAL
PROPERTIES OF FROZEN EGG YOLK CONTAINING VARIOUS ADDITIVES

by 4589

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B. S., Kansas State University, 1968

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Foods and Nutrition

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1970

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TABLE OF CONTENTS

INTRODUCTION	1
REVIEW OF LITERATURE	2
Functional Performance of Frozen Egg Yolk	2
Sponge cakes	2
Emulsions	4
Other products	4
Effect of Freezing and Additives on Physical and Chemical Properties of Yolk	5
Physical properties	5
Chemical properties	7
EXPERIMENTAL METHODS	10
Functional Performance	11
Sponge cake	12
Mayonnaise	15
Simple emulsions	17
Physical and Chemical Properties	17
Viscosity	18
pH	18
Centrifugation	18
Extraction and analysis of lipid	18
RESULTS AND DISCUSSION	20
Functional Performance	20
Visual characteristics of sponge cakes	20
Eating quality of sponge cakes	23
Objective measurements on sponge cakes	25

**THIS BOOK
CONTAINS
NUMEROUS PAGES
WITH DIAGRAMS
THAT ARE CROOKED
COMPARED TO THE
REST OF THE
INFORMATION ON
THE PAGE.**

**THIS IS AS
RECEIVED FROM
CUSTOMER.**

Mayonnaise	28
Simple emulsions	30
Selected Physical and Chemical Properties	32
Viscosity	32
pH	32
Centrifugation	34
Chromatographic analysis	34
SUMMARY	35
REFERENCES	37
ACKNOWLEDGMENTS	40
APPENDIX	41

INTRODUCTION

Freezing of liquid egg is a commercially important method for preserving egg quality. In 1966, 96,109,000 pounds of liquid egg yolk were frozen for later use in food products. This amounted to 27.0% of the total frozen egg production and 15.5% of the total liquid egg production in the United States during that year (U.S.D.A., 1967).

The use of frozen egg yolk is complicated by a phenomenon referred to as gelation. Freezing and defrosting egg yolk causes it to form a thick, viscous mass, rather than retaining the fluidity of fresh yolk. The mechanism responsible for gelation is not known.

Commercial egg processors currently add up to 10% salt or sugar to egg yolk prior to freezing to reduce gelation. Although this is effective in reducing the viscosity of the frozen-defrosted yolks, it does not completely inhibit gelation and may affect the functional performance of the yolks in the products for which they are used.

Little information was found in the literature on the chemical changes which accompany gelation of egg yolk. The mode of action of the additives which inhibit gelation is largely a matter of speculation.

The objective of this study was to investigate the effects of selected additives on some chemical and physical characteristics and the functional performance of frozen egg yolk. Comparisons with fresh egg yolk were also made.