

TABLE OF CONTENTS

Chapter	Title	Page No.
1.0	INTRODUCTION	1-3
2.0	REVIEW OF LITERATURE	4-13
	2.1 CLASSIFICATION OF TARO	
	2.2 DESCRIPTION	
	2.3 PROPERTIES OF STARCH	
	2.4 PROPERTIES OF TARO STARCH	
	2.5 PROPERTIES OF TOMATO AND TOMATO KETCHUP	
3.0	MATERIALS AND METHODS	14-28
	3.1 MATERIALS	
	3.2 METHOD OF EXTRACTION OF SAMPLE	
	3.3 METHOD OF PREPARATION OF KETCHUP	
	3.4 ANALYSIS OF SAMPLE	
	3.5 EQUIPMENT USED	
4.0	RESULT AND DISCUSSION	29-50
	4.1 PROPERTIES OF STARCH	
	4.2 PHYSICAL PROPERTIES OF STARCH	
	4.3 PROPERTIES OF TOMATO	
	4.4 PROPERTIES AND ANALYSIS OF TOMATO KETCHUP	
5.0	SUMMARY AND CONCLUSION	51-52
6.0	BIBLIOGRAPHY	53-57

LIST OF TABLES

SL.NO.	TITLE	PAGE NO.
3.1	Table showing the equipments used and their function.	28
4.1	Table showing proximate values of extracted starch samples.	28
4.2	Table showing the physical properties of the extracted starch samples	32
4.3	Table showing the pasting properties of the extracted starch samples.	34
4.4	Table showing some of the proximate values of Tomato Ketchup samples and their changes with storage.	39
4.5	Table showing some other proximate values of Tomato Ketchup samples	40
4.6	Table showing the L, a* and b* values for the Tomato Ketchup samples	46
4.7	Table showing the textural properties of the Tomato Ketchup samples	47
4.8	Table showing the sensory evaluation data of the Tomato Ketchup samples	48
4.9	Effect of starch on total count of bacteria and total count of yeast and mould in tomato ketchup.	48

LIST OF FIGURES

SL.NO.	TITLE	PAGE NO.
3.1	Figure showing the method of extraction of starch	15
3.2	Figure showing the method of preparation of Tomato Ketchup.	17
4.1	Bar diagram showing moisture content of the starch samples.	29
4.2	Bar diagram showing the ash contents of starch samples.	29
4.3	Bar diagram showing the starch content of the starch samples.	30
4.4	Bar diagram showing the protein content of the starch samples.	31
4.5	Bar diagram showing the lipid content of the starch samples.	31
4.6	Bar diagram showing the amylose content of the starch samples.	32
4.7	Bar diagram showing the solubility of starch samples	33
4.8	Bar diagram showing the swelling power of starch granules.	33
4.9	Bar diagram showing the clarity of starch samples.	34
4.10	Scanning electron micrograph of <i>Colocasia esculenta var. antiquorum</i>	35
4.11	Scanning Electron Micrograph of <i>Zea mays</i> .	35
4.12	Thermal properties of <i>Colocasia esculenta var. antiquorum</i> and <i>Zea mays</i> .	36
4.13	Crystallographic properties of <i>Colocasia esculenta var. antiquorum</i>	37
4.14	Crystallographic properties of <i>Zea mays</i> .	37
4.15	Bar diagram showing the properties of raw tomato.	38
4.16	Bar diagrams showing product yield and preparation time for the ketchup samples.	39
4.17	Bar diagram showing the change of pH due to addition of starch and storage.	40

SL.NO.	TITLE	SL.NO.
4.18	Bar diagram showing the change in acidity with addition of starch and storage.	41
4.19	Bar diagram showing the change in moisture content with addition of starch and storage in ketchup samples.	42
4.20	Bar diagram showing the change in reducing sugar with addition of starch and storage in ketchup samples.	42
4.21	Bar diagram showing the change of fat content with the addition of starch in ketchup samples.	43
4.22	Bar diagram showing the change of starch content with the addition of starch in ketchup samples.	44
4.23	Bar diagram showing the change of carbohydrate content with the addition of starch in ketchup samples.	44
4.24	Bar diagram showing the change of ash content with the addition of starch in ketchup samples.	45
4.25	Bar diagram showing the change of protein content with the addition of starch in ketchup samples.	45
4.26	Figure showing the different textural properties of ketchup	47

LIST OF ABBREVIATIONS

%	Percent
TSS	Total soluble solids
AR	Analytical grade
NaOH	Sodium Hydroxide
HCl	Hydrochloric acid
SP	Swelling Power
H ₂ SO ₄	Sulphuric acid
DSC	Differential Scanning Calorimeter
RVA	Rapid Visco Analyser
g	Gram
°C	Degree Centigrade
XRD	X-Ray Diffractometer
SEM	Scanning Electron Microscope
°B	Degree brix
cfu	Colony forming unit
ANOVA	Analysis of Variance
nm	Nanometer
µg	Microgram
O.D	Optical density
d.b	Dry basis
S.D	Standard Deviation
Fig	Figure
i.e	that is
mg	Milligram
ml	Milliliter
µm	Micrometer
To	Onset temperature
Tp	Peak temperature
Tc	Conclusion temperature
w.b	Wet basis