

Table of contents

Sl. No	Pg No.
1. Introduction-----	1
2. Review of Literature	
2.1 Quality parameters -----	5
2.2 Appearance quality factors-----	6
2.3 Textural quality factors-----	7
2.4 Flavor quality factors-----	8
2.5 Nutritional quality factors-----	8
2.6 Microbiology of fresh-cut vegetables-----	9
2.7 Postharvest factors influencing quality-----	10
2.8 Chemical-based washing treatments for minimally processed fruits and vegetables -----	12
3. Materials and Methods	
3.1 Materials-----	18
3.2 Methods:	
3.2.1 Minimal processing steps-----	18
3.2.2 Analytical methods	
3.2.2.1 Color and texture observation-----	19
3.2.2.2 Determination of moisture content--	19
3.2.2.3 Determination of water activity-----	20
3.2.2.4 Determination of ash content-----	20
3.2.2.5 Estimation of crude fiber -----	21
3.2.2.6 Estimation of protein content-----	21
3.2.2.7 Estimation of ascorbic acid-----	22
3.2.2.8 Microbiological analysis method-----	23
4. Results and Discussion	
4.1 Color and texture observation	
4.1.1 Carrot-----	24
4.1.2 Radish-----	26

4.1.3 Green pea-----	27
4.2 Moisture content	
4.2.1 Carrot-----	28
4.2.2 Radish-----	32
4.2.3 Green pea-----	35
4.3 Water activity-----	37
4.4 Ash content-----	38
4.5 Crude fiber content-----	39
4.6 Protein content-----	41
4.7 Ascorbic acid content	
4.7.1 Carrot-----	42
4.7.2 Radish-----	45
4.7.3 Green pea-----	48
4.8 Microbiological analysis	
4.8.1 Carrot-----	50
4.8.2 Radish-----	53
4.8.3 Green pea-----	55
5. Summary and Conclusion-----	58
6. Future scope of work-----	60
7. Bibliography	

LIST OF TABLES

Table No.	Title	Pg No.
4.1.1	Effect of processing variables on the colour and texture of minimally processed carrots during storage	26
4.1.2	Effect of processing variables on the colour and texture of minimally processed radish during storage	27
4.1.3	Effect of processing variables on the colour and texture of minimally processed green peas during storage	28
4.2.1	Loss of moisture content on storage of minimally processed carrot	29
4.2.2	Loss of moisture content on storage of minimally processed radish	32
4.2.3	Loss of moisture content on storage of minimally processed green peas	35
4.3.1	Water activity of minimally processed carrots during storage	37
4.3.2	Water activity of minimally processed radish during storage	38
4.3.3	Water activity of minimally processed green peas during storage	38
4.4	Ash content of minimally processed carrot, radish and green pea during storage	39
4.5	Crude fiber content of minimally processed carrot, radish and green pea during storage	40

Table No.	Title	Pg No.
4.6	Protein content of minimally processed carrot, radish and green pea during storage.	41
4.7.1	Ascorbic acid content of minimally processed carrot during storage.	42
4.7.2	Ascorbic acid content of minimally processed radish during storage	45
4.7.3	Ascorbic acid content of minimally processed green pea during storage	48
4.8.1.1	Microbial load in minimal processed carrots stored in HDPP	50
4.8.1.2	Microbial load in minimal processed carrots stored in LDPP	52
4.8.2.1	Microbial load in minimal processed radish stored in HDPP	53
4.8.2.2	Microbial load in minimal processed radish stored in LDPP	54
4.8.3.1	Microbial load in minimal processed green pea stored in HDPP	55
4.8.3.2	Microbial load in minimal processed green pea stored in LDPP	56

LIST OF FIGURES

Fig. No.	Figure Legend	Page No.
4.2.1.1	Moisture content of minimally processed carrot treated with sodium hypochlorite and cut by stainless steel knife during storage in HDPP and LDPP.	30
4.2.1.2	Moisture content of minimally processed carrot treated with sodium hypochlorite and cut by iron knife during storage in HDPP and LDPP	30
4.2.1.3	Moisture content of minimally processed carrot treated with sodium hypochlorite with calcium chloride and cut by stainless steel knife during storage in HDPP and LDPP	31
4.2.1.4	Moisture content of minimally processed carrot treated with sodium hypochlorite with calcium chloride and cut by iron knife during storage in HDPP and LDPP	31
4.2.2.1	Moisture content of minimally processed radish treated with sodium hypochlorite and cut by stainless steel knife during storage in HDPP and LDPP	33
4.2.2.2	Moisture content of minimally processed radish treated with sodium hypochlorite and cut by iron knife during storage in HDPP and LDPP	33

Fig. No.	Figure Legend	Page No.
4.2.2.3	Moisture content of minimally processed radish treated with sodium hypochlorite with calcium chloride and cut by stainless steel knife during storage in HDPP and LDPP	34
4.2.2.4	Moisture content of minimally processed radish treated with sodium hypochlorite with calcium chloride and cut by iron knife during storage in HDPP and LDPP.	34
4.2.3.1	Moisture content of minimally processed green peas treated with sodium hypochlorite during storage in HDPP and LDPP.	36
4.2.3.2	Moisture content of minimally processed green peas treated with sodium hypochlorite with calcium chloride and during storage in HDPP and LDPP	36
4.7.1.1	Ascorbic acid content of minimally processed carrot treated with sodium hypochlorite and cut with stainless steel knife during storage in HDPP and LDPP.	43
4.7.1.2	Ascorbic acid content of minimally processed carrot treated with sodium hypochlorite and cut with iron knife during storage in HDPP and LDPP.	43

Fig. No.	Figure Legend	Page No.
4.7.1.3	Ascorbic acid content of minimally processed carrot treated with sodium hypochlorite with calcium chloride and cut with stainless steel knife during storage in HDPP and LDPP	44
4.7.1.4	Ascorbic acid content of minimally processed carrot treated with sodium hypochlorite with calcium chloride and cut with iron knife during storage in HDPP and LDPP	44
4.7.2.1	Ascorbic acid content of minimally processed radish treated with sodium hypochlorite and cut with stainless steel knife during storage in HDPP and LDPP	46
4.7.2.2	Ascorbic acid content of minimally processed radish treated with sodium hypochlorite and cut with iron knife during storage in HDPP and LDPP	46
4.7.2.3	Ascorbic acid content of minimally processed radish treated with sodium hypochlorite with calcium chloride and cut with stainless steel knife during storage in HDPP and LDPP	47
4.7.2.4	Ascorbic acid content of minimally processed radish treated with sodium hypochlorite with calcium chloride and cut with iron knife during storage in HDPP and LDPP	47

Fig. No.	Figure Legend	Page No.
4.7.3.1	Ascorbic acid content of minimally processed green peas treated with sodium hypochlorite with during storage in HDPP and LDPP	49
4.7.3.2	Ascorbic acid content of minimally processed green peas treated with sodium hypochlorite with calcium chloride during storage in HDPP and LDPP	49
4.8.1.1	Microbial load (CFU/ml) in carrot dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in HDPP in nutrient agar with no dilution plating.	51
4.8.1.2	Microbial load (CFU/ml) in carrot dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in LDPP in nutrient agar with no dilution plating.	52
4.8.2.1	Microbial load (CFU/ml) in radish dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in HDPP in nutrient agar with no dilution plating.	53
4.8.2.2	Microbial load (CFU/ml) in radish dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in LDPP in nutrient agar with no dilution plating.	54

Fig. No.	Figure Legend	Page No.
4.8.3.1	Microbial load (CFU/ml) in green peas dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in HDPP in nutrient agar with no dilution plating.	55
4.8.3.2	Microbial load (CFU/ml) in green peas dipped in sodium hypochlorite and sodium hypochlorite with calcium chloride and stored in LDPP in nutrient agar with no dilution plating.	56