

Contents

	Page
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	3
2.1..Chemical composition of wheat flour of 72% extraction rate	3
2.2. Chemical composition of whey powder	4
2.3. Chemical composition of egg yolk powder	5
2.4. Effect of different additions on dough properties ...	6
2.4.1. Effect of ascorbic acid addition	6
2.4.2. Effect of whey powder addition	10
2.5..Effect of different additions on properties and nutritive value of bakery products	12
2.5.1.Effect of ascorbic acid addition	12
2.5.2. Effect of whey powder addition	14
2.5.3. Effect of addition of egg yolk powder	20
2.6. Protein digestability	22
2.7. Staling rate of bread	24
3. MATERIALS AND METHODS	29
3.1. Materials	29
3.2. Methods	29
3.2.1. Preparation of pan bread blends	29
3.2.2. Rheological properties of dough formulas	30
3.2.2.1. Farinograph test	30
3.2.2.2. Extensograph test	31
3.2.3. Falling number of wheat flour formulas	33
3.2.4. Baking procedure	33
3.2.5. Chemical analysis	33
3.2.6. Determination of minerals	34
3.2.7. Determination of ascorbic acid by HPLC	34
3.2.8. Determination of protein digestability in vitro ...	35
3.2.9. Pan bread physical characteristics	36
3.2.10. Sensory evaluation	37

	Page
3.2.11. Statistical analysis	37
3.2.12. Staling of pan bread loaves	38
4. RESULTS AND DISCUSSION	39
4.1..Chemical composition of wheat flour, egg yolk and whey powder	39
4.2..Mineral contents of wheat flour, egg yolk and whey powder	41
4.3. Rheological properties of wheat flour dough (control) and the doughs fortified with ascorbic acid, egg yolk and whey powder	43
4.3.1. Farinogram properties	43
4.3.2. Extensogram properties	49
4.4. Chemical composition of pan bread	52
4.5. Mineral content of pan bread	52
4.6. Stability of vitamin C	55
4.7. Protein and protein digestability	60
4.8. Physical properties of fortified pan bread	62
4.9. Effect of fortification the storage period of pan bread	65
4.10..Organoleptic properties of pan bread (control) and pan bread fortified with egg yolk, whey and ascorbic acid	68
4.11..Organoleptic properties of pan bread (control) and pan bread fortified with egg yolk, whey and ascorbic acid after baking and after 1, 2 and 3 days	70
5. SUMMARY	73
6. REFERENCES	77
7. ARABIC SUMMARY	