

C O N T E N T S

	Page
INTRODUCTION.....	1
I. REVIEW OF LITERATURE.....	3
I.1. Physical and chemical properties of rapeseed oils comparing with some edible oils.....	8
I.2. Fatty acid contents of rapeseed oils comparing with some edible oils.....	8
I.3. Effect of gamma irradiation on the physical and chemical properties of some edible oils.....	12
I.4. Effect of gamma irradiation on fatty acids composition of some edible oils.....	14
I.5. Unsaponifiable matter composition of rapeseeds oil....	16
I.6. Chemical composition of rapeseeds meal.....	18
I.7. Effect of gamma irradiation on plant protein:.....	21
I.8. Toxicity and treatments of rapeseed meal:.....	21
II. MATERIALS AND METHODS.....	27
II.1. Materials.....	27
II.2. Standards.....	27
II.3. Treatments of rapeseeds.....	28
II.4. Analysis of meal.....	29
II.5. Analysis of crude oil.....	31
II.6. Determination of fatty acids.....	31
III. RESULTS AND DISCUSSION.....	33
III.1. Untreated rapeseeds.....	34
III.1.1. Physical and chemical properties of rapeseeds oil..	34
III.1.2. Fatty acids composition of rapeseeds oil.....	34
III.1.3. Unsaponifiable matter composition of rapeseeds oil..	36
III.1.4. Chemical composition of rapeseeds meal.....	38
III.1.5. Total glucosinolate compounds and myrosinase en- zyme activity of rapeseeds meal.....	39
III.2. Effect of gamma irradiation on extracted oil and meal of rapeseeds.....	40
III.2.1. Physical and chemical properties of rapeseeds oil. ..	40
III.2.2. Fatty acids composition of rapeseeds oil.....	43
III.2.3. Unsaponifiable matter components of rapeseeds oil....	47
III.2.4. Chemical composition of rapeseeds meal.....	50
III.2.5. Total glucosinolate compounds and myrosinase en- zyme activity of rapeseeds meal.....	52

Cont.	Page
III.3. Effect of humid and dry heat treatments on ex-... tracted oil and meal of rapeseeds.....	52 52
III.3.1. Physical and chemical properties of rapeseeds oil	52
III.3.2. Fatty acids composition of rapeseeds oil.....	57
a). Autoclaving "humid heat treatments".....	57
b). Roasting "dry heat treatments".....	59
III.3.3. Unsaponifiable matter components of rapeseeds oil...	64
a). Autoclaving "Humid heat treatments"	64
b). Roasting "dry heat treatments"	64
III.3.4. Chemical composition of rapeseeds meal.....	68
III.3.5. Total glucosinolate compounds and myrosinase en- zyme activity of rapeseeds meal.....	70
III.4. Effect of various soaking treatments on extracted oil and meal of rapeseeds.....	72
III.4.1. Physical and chemical properties of rapeseeds oil.....	72
III.4.2. Fatty acids composition of rapeseeds oil.....	77
III.4.3. Unsaponifiable matter of rapeseeds oil.....	83
III.4.4. Chemical composition of rapeseeds meal.....	87
III.4.5. Total glucosinolate compounds and myrosinase en- zyme activity of rapeseeds meal.....	90
IV. SUMMARY.....	92
V. REFERENCES.....	101
ARABIC SUMMARY.	