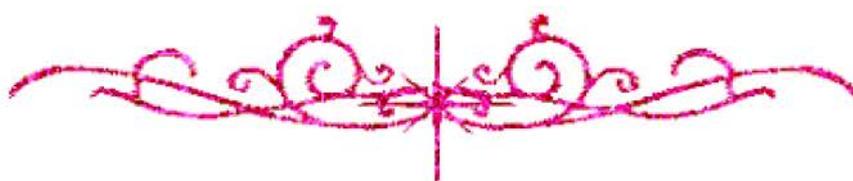


سامية محمد مصطفى



شبكة المعلومات الجامعية

# بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



سامية محمد مصطفى



شبكة المعلومات الجامعية



# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



سامية محمد مصطفى



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



سامية محمد مصطفى



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# بعض الوثائق الأصلية تالفة



سامية محمد مصطفى



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بالرسالة صفحات

لم ترد بالأصل



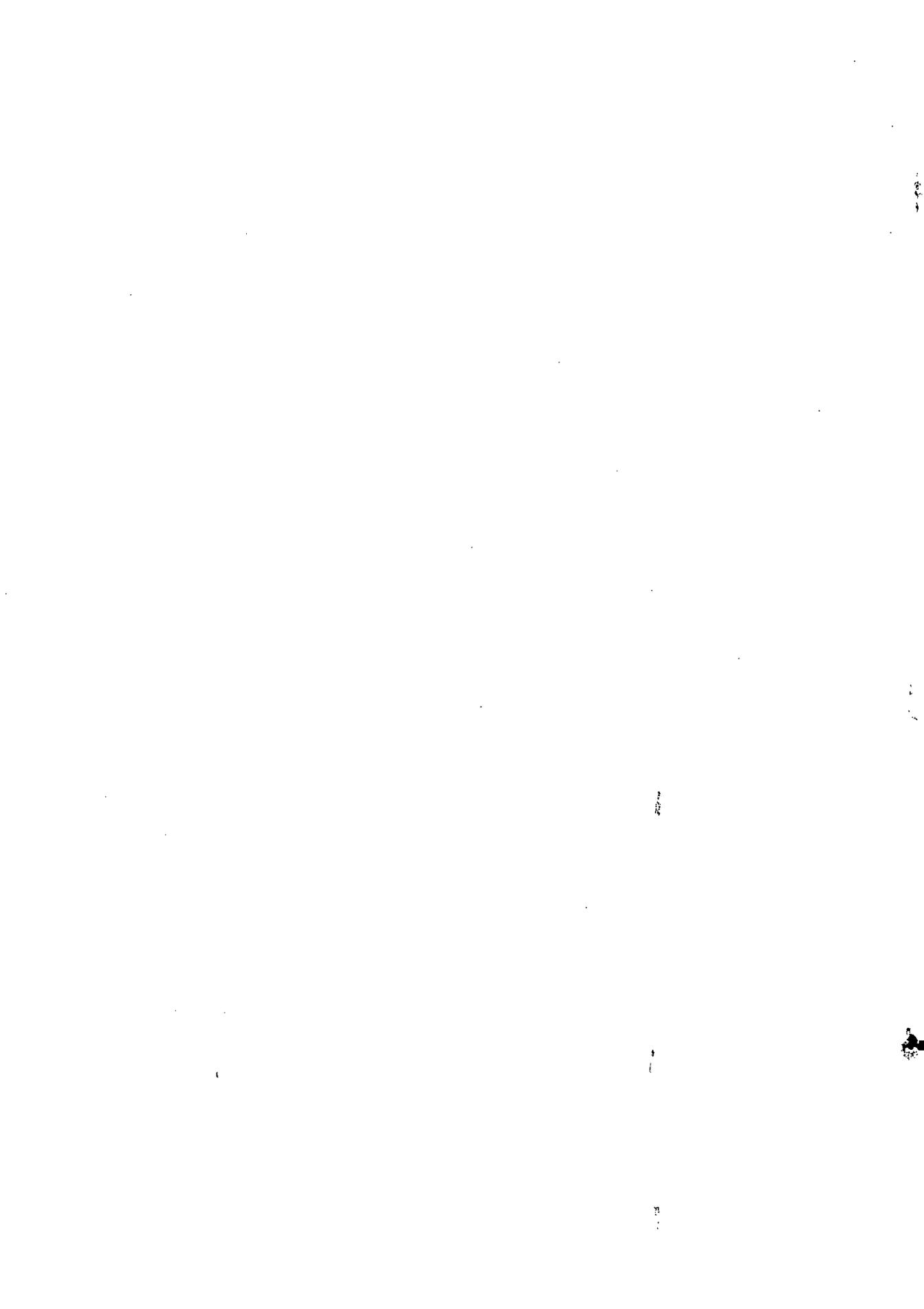
*Utilization of some food plantes wastes as a source  
of dietary fiber in Africa*

By  
*Nermeen Essam Eldin Ramez*  
*B.Sc. Agricultural production Depatment*  
*Cairo University*  
*1995*

*A Thesis*  
*Submitted in Partial Fulfillment of the Requirement*  
*For the Degree of Master of Science*  
*In*  
*Agricultural Science (Food Science and Technology)*

*Natural Resources Department Institute*  
*of African Studies and Reaserches*  
*Cairo University*  
*2008*

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*Approval Sheet*  
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*Date: / /2008*

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*Natural Resources Department Institute  
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Cairo University  
2008*



*Supervision Sheet*

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*Nermeen Essam Eldin Ramez*

*Under The Supervision of:*

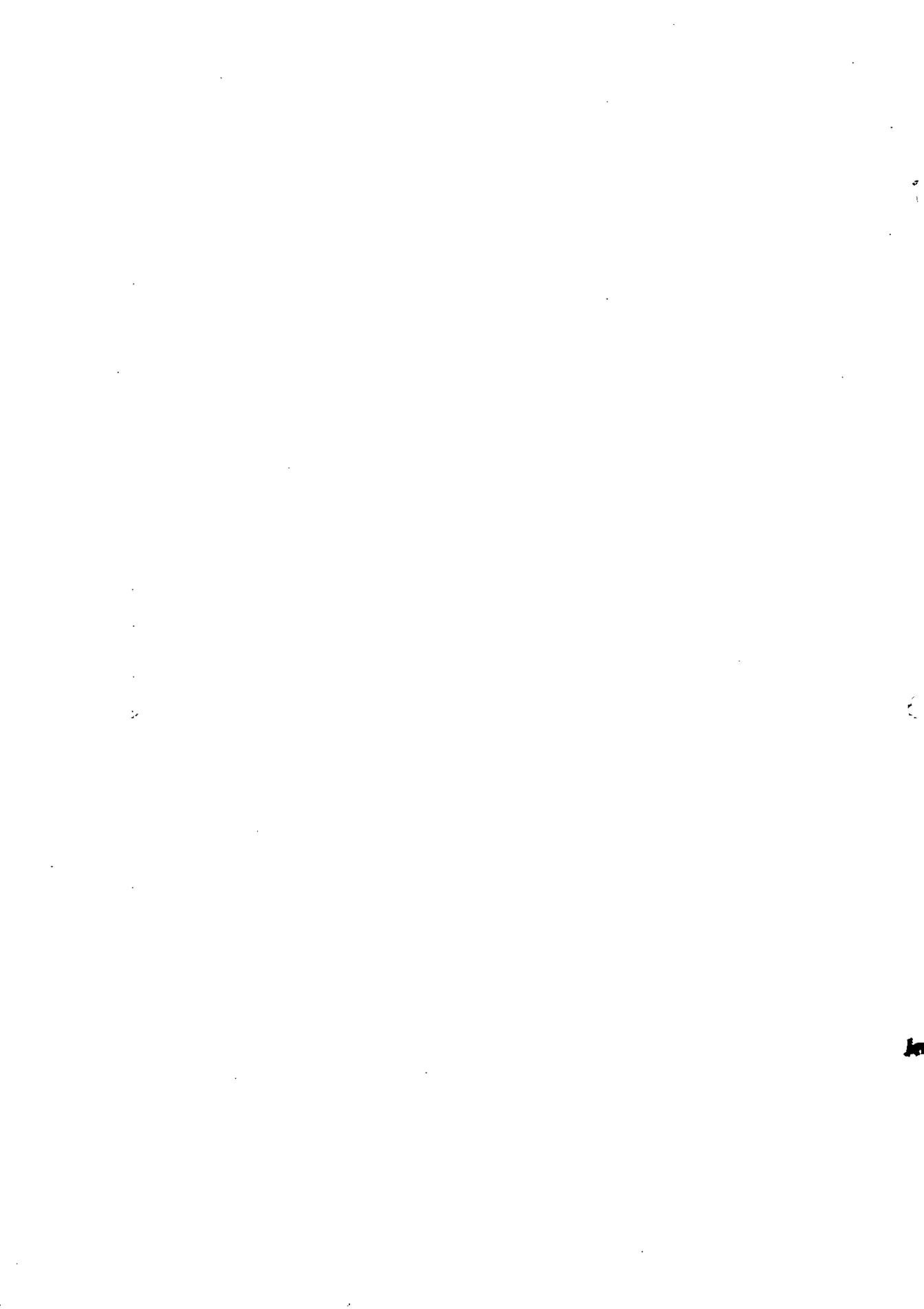
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*2008*



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Title of Thesis: Utilization of some food plants wastes as a source of dietary fiber  
in Africa

Supervisors: Prof. Dr\ Mona Mohamed Abd Elmagied

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Prof. Dr\ Omar Rady Mohamed Masoud

Department: Natural Resources Department

### **Abstract**

The object of this study is utilize of two sources of dietary fiber such as apple pomace and pea hulls which added to some foods to lower blood cholesterol and to improve the liver functions. The dehydrated and pretreated samples of apple pomace as well as dehydrated samples of pea hulls were evaluated physically, chemically, technologically and biologically. These different sources of previous fibers were substituted with wheat flour (72% extraction) at different levels 6, 8, 10 and 12% as a total dietary fiber (TDF) for the production of soft biscuits and cakes.

The obtained results could be summarized as follows:

I-Apple pomace.

1-The different treated and drying methods had not affected the chemical and physical properties of apple pomace.

2- Rheological properties it was found that, the substitution of different sources of fiber increased the water absorption of doughs, development time while the dough stability, mixing tolerance, resistance to extension and extensibility decreased.

3- For sensory evaluation, we found that, adding dietary fibers of apple pomace improve the color, taste, odor and texture of biscuits and the best samples were that substituted with the solar dried apple pomace treated with  $\text{CaCl}_2$ .

4- For biological evaluation significant differences could be seen among the tested groups concerning the gain in body weight. Rats fed with fiber-free diet had the highest value for gain in body weight. The highest food intake was with the group of rats fed with fiber free diet while basal diet (10% cellulose) recorded the lowest score of food intake. The lowest levels of serum cholesterol, HDL, LDL and triglycerides

were for the groups of rats fed with apple pomace 10% but the serum of rats fed with fiber-free diet had the highest values. The different sources of dietary fiber had positive effect on liver function.

## II-Pea hull.

1-Physical and chemical properties of dried pea hull were not affected by two drying methods.

2-Concerning rheological properties the addition of pea hull increased, the water absorption, arrival time, dough development, while the dough stability, mixing tolerance, resistance to extension and extensibility decreased compared with control sample (wheat flour 72%).

3-Sensory evaluation: The control sample and the substituted cakes with 6,8 and 10% pea hull were the best samples for appearance, crust color, crumb color, taste, odor and texture.

4-Biological evaluation: Food intake, body weight gain, TDF content in food intake and faeces, faeces weight, total cholesterol, HDL, LDL, triglycerides and liver functions were studied. We found The highest food intake was with the group of rats fed with fiber free diet while basal diet (10% cellulose) recorded the lowest score of food intake. The lowest levels of serum cholesterol, HDL, LDL and triglycerides were for the groups of rats fed with pea hull 10% but the highest level were of rats fed with fiber-free diet. The different sources of dietary fiber had positive effect on liver function (Ast, Alt and Alp) enzymes.

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