EFFECT OF SPROUTING USING SALINE WATER ON CHARACTERS AND CHEMICAL COMPOSITION OF SPROUTS OF SOME LEGUME AND CEREALS SEEDS

By

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B.Sci. Agric. Fac. Agric. (Hort.), Ain Shams Univ., 2002
M.Sc. Agric. Env. (Inst. of Env. Studies and Research), Ain Shams Univ., 2010

A Thesis Submitted in Partial Fulfillment

Of

The Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in

Agricultural Science

(Advanced Agricultural Systems for Arid Lands)

Arid Land Agricultural Graduated Studies and Research Institute

Faculty of Agriculture

Ain Shams University

2017

Approval Sheet

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ABSTRACT

Eslam Mohamed Rasheed Ibrahim: Effect of Sprouting Using Saline Water on Characters and Chemical Composition of Sprouts of Some Legume and Cereals Seeds. Unpublished Ph.D. Thesis, Arid Land Agricultural Graduated Studies and Research Institute, Faculty of Agriculture, Ain Shams University, 2017.

In the current study, three crop grains (wheat, naked barley and chickpea) were used to study the effect of grain sprouting using tap water and saline water on sprout growth, chemical composition, minerals content, phytic acid, vitamins, amino acids, phytochemicals and rheological properties of sprouted flour comparing with market wheat flour (soft and coarse). Sprouted grain flour were blends in the production of biscuits.The effect of sprout flours blends on chemical composition, physical characteristics and sensory evaluation of biscuits. The sprouted wheat flour and raw grain flour was higher in protein (14.5-15.3%) compared with market wheat flour (13.1 and 13.6%). Sprouted chickpea flour was higher in protein than raw chickpea seeds. Whole wheat grains and sprouted flour were higher in total fiber than market wheat flour. Wheat, naked barley and chickpea sprouted and whole grains flour content of vitamins (A, E and B_1), phytic acid, amino acid, phytochemical and rheological properties compared with market wheat flours were recorde, the falling number decreased in sprouted wheat, naked barley and chickpea grain seeds flour compared with market and un germinated wheat flour. Biscuits made from 50% wheat sprouts flour supplemented with 50% chickpea sprouted flour used tap water were higher in protein than other samples.Sensory evaluation of biscuits showed that the best biscuits samples prepared from 50% sprouted wheat using saline water supplement with 50% sprouted chickpea.

Key words: wheat, naked barley, chickpea, sprouting, saline water, phytic acid, chemical composition, rheological properties, phytochemical, biscuits.

ACKNOWLEDGEMENT

First of all, I am praising **ALLAH** beneficent, the merciful for his great generous and for guiding me to carry out this work.

It honors me to convey my deepest thanks and heartfelt gratitude to **Prof. Dr. Mamdouh Mohamed Fawzy Abdallah**, Professor of Vegetables, Horticulture Dept., and X-Dean, Faculty of Agriculture, Ain Shams University, for his supervision, reviewing the manuscript, fruitful discussion during this work and for his valuable advices while, carrying out this research work. He is an excellent supervisor, gave me stimulating suggestions and he was available at all time when I need his help and advice. It a great honor to work under this supervision.

I am indebted to **Prof. Dr. Usama Ahmed Ali El-Behairy,** Prof. of Vegetable Crops, Horticulture Dept., and Dean of Arid Land Agricultural Graduated Studies and Research Institute, Faculty of Agriculture, Ain Shams University, for introducing me the research field, his supervision, kind support and for his every guidance.

My deep gratitude to **Prof. Dr. Mohamed Sayed Mosaad Masoud**, Head Researcher of human nutrition, and Deputy of Regional Center for Food and Feed, Agricultural Research Center, for his supervision, reviewing the manuscript and for his great help and fruitful discussion during this work.

Many thanks to **Dr. Tahany Abd-El Ghafar A. Aly**, Researcher of biochemistry, Regional Center for Food and Feed, Agricultural Research Center, for providing all the help to complete this study.

My grateful thanks to every one helped me and to my **Colleagues** for providing all the help and assistance to complete this work.

I am also thankful my family especially **My Mother** for her encouragement and support this work would not have been possible during this work period. And I dedicate this work to **My Parents**.

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