

**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

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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 Unpublished Ph.D. Thesis, Arid Land Agricultural Graduated Studies and Research Institute, Faculty of Agriculture, Ain Shams University, 2017.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 B₁), phytic acid, amino acid, phytochemical and rheological properties compared with market wheat flours were recorded, 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.

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