

Novel Cereal Foods

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Abstract

This research contributes with new solutions to support sustainable food production, food security and safety as well as the production of high-quality food promoting human health and wellbeing.

Cereals are amongst the most grown food crops worldwide. Cereals are generally known as healthy basic foods containing proteins, carbohydrates, dietary fibers, and other bioactive components. We wish to understand the effects of nanoparticles on various functional groups and to understand and develop novel cereal foods as part of a sustainable diet.

The research project is a series of scientific research that begins with planting grains of different crops after soaking them for a specific period of time with bio-synthesized nanoparticles of specific dimensions and shapes and monitoring their effect on production and biochemical indicators. In addition to continuing the work on the resulting grains to study the continuing effect of the nanoparticles present in them as a result of previous treatment with them and the effect of this on the same indicators previously studied and to compare this effect.

The functional groups of the resulting grains are also analyzed and the changes in them and their impact on the quality of the grains are studied, which affects human health and nutrition.

the effect of bio-synthesized nanoparticles from different plant extracts (lemon juice - eucalyptus leaf extract - olive leaf extract- thyme leaf extract- Punica granatum peel) on the production indicators of crops (wheat - chickpeas - fenugreek- thyme- peanuts and Faba Bean) was studied as well as long term its effect.

The first goal has been achieved, which is the positive effect of nanoparticles on productive indicators, and work is still underway on two paths, which are qualitative indicators of the resulting grains and the changes in the functional groups for plant treatment during different growth stages.