ASSESSING THE HEALTH PROMOTING EFFECT OF MALT, USING *DROSOPHILA MELANOGASTER* MODEL SYSTEM

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ABSTRACT

Studying the effect of malting of cereal grains have been gaining more and more interest in the past years. Though the malting process has been shown to result in increased bioactive compounds, such as polyphenols, and some nutritional studies have been done to investigate the biological effects, there is a considerable knowledge gap. The human body's response to changes in dietary conditions cannot be ignored, therefore we need a model organism to study the effect of biochemicals under different conditions.

Drosophila melanogaster provides us with the obvious translational model system due to its high gene homology to humans and similarity in metabolic pathways, as well as ease of use in the laboratory.

We propose three different nutritional environments: Normal Media, Zero Media, High Sugar Media - acting as our balanced diet, low nutrient diet, and diet high in sugar respectively. We assess the effect of different malt flours under such conditions, following the development of the flies from embryo to adult, including larval survival rate, hatch rate, life cycle length.

We aim to gain insight into the effect of biochemicals while following different diets, so that we could emphasise the importance of a person's nutrition while taking supplements or medication.

Keywords: malt flour, Drosophila melanogaster, nutrition, polyphenols,