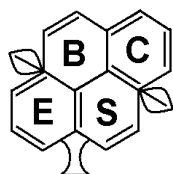


Journal

CHARACTERIZATION AND GENE EXPRESSION ANALYSIS OF ZINC FINGER RELATED GENES IN BREAD WHEAT (*TRITICUM AESTIVUM*)

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Journal

COMPARATIVE STUDY BETWEEN SOME FOOD DYES ON SOME BIOCHEMICAL PARAMETERS OF ALBINO RATS

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ABSTRACT

Food dyes are used all over the world in great amount. It is an integral part of our culture and is also indispensable to the modern day consumer. During the past several decades, the technology of food processing has changed dramatically and the growth in the use of food dye has increased enormously. However, their use in food or drinks are still controversial.

The present study was carried out to compare between the stability and possible harmful effect of some natural dyes (annatto E160 - chlorophyll E140) and synthetic dyes (sunset yellow E110- fast green E143), on lipid profile, liver, kidney function and glutathione enzyme of young forty five male albino rats. Natural and synthetic food dyes were administered orally in two doses, one low and other high dose for 60 days in drink water.

The study revealed that maximum absorption wavelengths were 492 and 450 nm for annatto and chlorophyll respectively. And for synthetic food dyes named sunset yellow and fast green were 515 and 468 nm respectively. Also the results showed that natural food dyes are characterized by a high stability at alkaline pH. While the tested synthetic dyes were more stable at low pH. Also the results showed that all the tested dyes were degraded by increasing the temperature. Treated rats on both natural and synthetic food dyes (permitted dose) significantly slight increase of the mean value of body weight gain %, serum cholesterol, HDL-c and (LDL-c in high dose only). While organs weight/body weight % except spleen and heart recorded significant decrease. On the other hand, a noticeable decrease in albumin, activities of serum alanine aminotransferase (ALT) in high doses, serum aspartate aminotransferase (AST) and serum urea and activity of enzyme glutathione were found in rats drank natural and synthetic food dyes. Low and high doses of natural and synthetic food dyes increased of serum creatinine as compared to the control group.

Therefore, large quantities and /or long periods of dyes administration should not be used as additive in man's diet or as a drink. And more caring must be done avoid using them as much as possible our children to eat or drink these dyes with much amounts or for long period.

Key words: Albino rats; Annatto; Chlorophyll; Enzyme; Fast green; Glutathione; Histopathology. Kidney functions; Lipid Profile; Liver enzymes; Sunset yellow.