

تقييم البصل والثوم كأغذية وظيفية وعلاجية لسرطان الكبد

علاء الدين السيد البلتاجي؛ أبوالفتح عبدالقادر البديوي؛ وردة يوسف على محمد

قسم علوم وتكنولوجيا الأغذية - كلية الزراعة - جامعة المنوفية - شبين الكوم.

EFFECT OF FEEDING WITH ONION AND GARLIC ON REDUCING LIVER CANCER SYMPTOMS

A.E. El-Beltagy, A. A. El-Bedawey and Warda A. Yousif

Food Science and Technology Department, Faculty of Agriculture, Minufiya University, 32516-
Shebien El-Kom, Egypt.

(Received: Sep. 6, 2012)

ABSTRACT: *This study was carried out to evaluate the effect of dehydrated onion and garlic (as a functional foods) to reduce the liver cancer symptoms in rates. Adult's albino rats were treated subcutaneous injection with carbon tetrachloride (CCl₄) for four months. All groups of rats fed on the experimental diet for four weeks as the following: Casein only (Control Negative); Casein after (CCl₄) injection (Control Positive). Casein with addition of 15% and 20% of garlic or onion as well as 15% or 20% of onion. The best diet affected Glutamate Oxaloacetate Transaminase (GOT) was that contained garlic 20%, followed by onion and garlic mixture 20%. Whereas, the diets contained 20% garlic had the best improvement to ALP while the best effect on GPT was for the groups feed on mix of garlic and onion 15% and mix of garlic and onion 20%. The best diets for improving LDH were onion 20% followed by mix of onion and garlic 15%, mix of onion and garlic 20%. Microscopically, some examined sections from group feed on both garlic 20% and onion 15% were histologically very closed to (C -ve) group.*

Key words: *Garlic - Onion - Liver Cancer - Biological evaluation - Histological examination -Functional Foods.*

التحويل الحيوى لبعض المخلفات اللجنوسليولوزية الوفيرة من الصناعات الغذائية الى بروتينات مأمونه عالية القيمة الغذائية

عبد المحسن صابر إسماعيل⁽¹⁾ ، أبو الفتح عبد القادر البديوى⁽²⁾ ،

علاء الدين السيد البلتاجى⁽²⁾ ، أميرة على حسن⁽¹⁾

⁽¹⁾ قسم كيمياء المنتجات الطبيعية و الميكروبية - المركز القومى للبحوث

⁽²⁾ قسم علوم وتكنولوجيا الأغذية - كلية الزراعة جامعة المنوفية

BIOCONVERSION OF SOME ABUNDANT FOOD INDUSTRY LIGNOCELLULOSIC WASTES TO SAFE AND NUTRITIVE PROTEINS

**A. S. Ismail⁽¹⁾, A.A. El Bedawey⁽²⁾, A.E.S. El Beltagy⁽²⁾
and Amira A. Hassan⁽¹⁾**

⁽¹⁾ Natural and Microbial Products Chemistry, Pharmaceutical Research Division, National Research Center, Dokki, Cairo, Egypt

⁽²⁾ Department of Food Science and Technology, Faculty of Agriculture, Minufiya University, Shibin El-Kom, Egypt

(Received: Oct. 11, 2012)

ABSTRACT: Among ten fungal and yeast species grown on eight local food industry wastes, two strains *Candia albicans* NRRL YB-242 and *Saccharomyces cerevisiae* NRRL Y-12632 in 7-days shaken cultures were the most potent and afforded the highest safe protein yields, which were completely free of dangerous toxins and contain low nucleic acids level. The optimum protein production medium was formulated for the two strains and consisted of wheat bran, ammonium sulphate and glucose + manganese sulphate mixture as an additive for *C. albicans* strain, and of wheat bran, milk-whey and glucose + sugar beet molasses mixture as additives for the other strain *S. cerevisiae*. The shaken culture technique (200 rpm) for 7 days at 30°C and initial pH of 4.7 was the most preferable than solid state fermentation technique and led to the highest protein productivity by any of the two species. The suitable inoculum age was 48 h for both strains, while its size was 5 & 7.5 ml/flask, respectively. Many trials for the maximal biomass protein extraction were performed and brought about the efficiency of sodium hydroxide (0.2-M) for protein extraction from the biomass of both strains. Evaluation of the different lyophilized protein preparation forms (culture filtrate & biomass extract) was carried out. The crude lyophilized protein preparation forms either of the filtrate or the biomass extract of *C. albicans* contained many important minerals, lipo and glycoprotein with low nucleic acids level (< 1.0) and were completely free of microbial toxins.

Key words: Food industry wastes; Single cell protein; Nucleic acids; Mycotoxins; Nutritive & safe protein.
