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6. SUMMARY

The present study was carried out to evaluate some fermented soybean products namely miso and soy sauce.

Miso and soy sauce were prepared using different strains of fungi; i.e., *A. oryza* and *A. soji*, yeast; i.e., *pichia anamela*, *Zygosaccharomyces rouxii*, *Kluyveromyces lactis*, *Kluyveromyces marxianus* and bacteria; i.e., *Bifido coccus* and *Lactobacillus acidophilus*.

The products were sensory evaluated by well trained panelists and the highly acceptable products were conducted to the following determination.

1: Chemical composition :

A: Chemical composition of soy sauce :

Moisture, protein, ether extract, fiber, ash and carbohydrate ranged between (75-78.7), (3.2-4.6), (1-1.2), (0-0), (15.3-17.8) and (2.0-2.2), respectively.

B: Chemical composition of miso :

Moisture, protein, ether extract, fiber, ash and carbohydrate ranged between (46-50.37), (12.55-15.75), (6.9-10.45), (2.20-2.6), (12-13) and (12.4-15.36), respectively.

2: Physical properties :

pH value , acidity and NaCl content of soy sauce were ranged from (4.6-5.2) & from 1.8 to 2.7 & from 17.5 to 19.10% respectively

The corresponding figures for miso products were from (5.5-5.8) & from 1.9 to 2.10 & from 6.79 to 10.55% , respectively.

After the determination of the physical and chemical composition of the products, biological evaluation was conducted. The data revealed that feeding soy sauce and miso resulted in :

- 1- Food intake : The data showed a significant decrease and increase due to feeding soy sauce and miso, respectively for both sexes compared with control.
- 2- Weight gain/loss : Soy sauce caused weight loss, meanwhile, miso resulted in weight gain for both sexes compared with control.
- 3- Relative ratio of organs : A significant increase was found regarding heart (fed miso), liver (fed soy sauce), brain (fed soy sauce or miso) and significant decrease regarding testis.
- 4- Serum lipid profile . Feeding on soy sauce or miso induced a significant increase of TG, HDL and VLDL. Meanwhile, a significant decrease in LDL and total cholesterol for both sexes compared with control was determined .
- 5- Liver function : A significant increase of bilirubin and alkaline phosphatase activity was determined . On the contrary, a significant decrease was found concerning GOT, GPT, albumin and urea in both sexes compared with control.
- 6- Endocrine hormones : T_3 and T_4 showed a significant decrease and vice versus concerning TSH. Progesterone and estradiol showed a significant increase in female rats. On the other hand, a significant decrease was found concerning testosterone for the male rats.

Histological examination: Liver and brain were examined histologically and the data revealed slight variation compared with control for both sexes.