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Thesis Title	**Use Of Date Dibbis And Tahinia As Substitutes In Processing Of Some Food Products**			
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Abstract

Abstract

The present study in tended to investigate the effect of substitution of sucrose by dibbis and fat by tahinia on chemical composition and quality and sensory properties of laboratory loaf bread beside studying the possibility of development and processing of new spreadable food product using dibbis and tahinia as well as investigating its chemical composition, sensory and storage properties.

A preliminary experiment on the laboratory bread had been conducted involving fourteen treatments which were subjected to sensory evaluation upon which the best seven treatment of the highest overall scores were selected.

The tahinia (T) with dibbes (D) spreadable product was subjected to a series of experiments and sensory evaluations after which the best six treatments were selected and considered as being the essential sample of the research. The most important results revealed by this study were as follows:

1. The sensory evaluation of lab. loaf bread showed insignificant differences ($P<0.05$) among treatments in crumb texture uniformity, upper crust thickness, chewiness and leavening of bread. However, treatment A_{11} (substitution of sucrose and fat by 25% dibbis and tahinia, respectively) had the highest overall score of quality parameters amounted to 87.0 of total 100.0 followed by treatment A_7 (substitution of fat by 25% tahinia) with overall score of 86.9. Treatment A_{11} obtained the highest points in the lower surface color, crumb texture fineness, upper crust thickness and flavor (odor and taste).
2. An increase in loaf volume occurred as fat was substituted by tahinia reaching its highest value at 50% substitution with an increase percentage of 8.82% of that of the control 2{6% sucrose + 4% fat + 6%

dried skim milk (DSM) + common ingredients (flour + yeast + salt)}. The substitution of both sucrose by dibbis and fat by tahinia, however led to an increase in loaf volume reaching its highest value at 50% of both ingredients with an increase percentage of 11.76% of that of control 2.

3. An increase but insignificant in bread leavening occurred as fat was substituted by tahinia reaching its highest value at 50% substitution with an increase percentage of 8.82% of that of the control 2. The substitution of both sucrose by dibbis and fat by tahinia however, resulted in significant increase in bread leavening reaching its highest value at 50% substitution of both ingredients with an increase percentage of 12.35% of that of control 2.
4. Moisture content of bread increased significantly as substitution of sucrose by dibbis and fat by tahinia increased, the increase range being between 5.99-11.48%. An insignificant increase in ash content occurred as substitution percentage increased, the increase ranged between 6.43-19.61%. Non significant increase was also reported in protein content as substitution percentage increased the highest being 80.61% at 75% of both ingredients.
5. Fat content of bread decreased as fat substitution by tahinia increased the decrease ranged between 1.23-7.20%. However, a gradual insignificant increase in fat content occurred as substitution percentage of sucrose by dibbis and fat by tahinia was increased, the increase ranged between 1.65-8.23% Carbohydrate content also decreased as substitution percentages of both ingredients increased ranging between 1.66-4.73%
6. Oil separation occurred in treatment of tahinia (T) with dibbis (D) spread containing more tahinia than dibbis and the best percentage of emulsifier (lecithin) added was 0.1%. The optimal percentages of dibbis ranged between 50-55%.
7. The sensory evaluation of tahinia with dibbis spread (experiment 3 involving six treatments with toasted bread) revealed no significant differences among treatment in overall sensory properties However, treatment Y_1 (55% D + 35% T + 10% DSM + cold process), Y_2 (55% D + 35% T + 10% DSM + heating at 60^{o}C) were significantly superior than treatment Y_8 (50% D + 35% T + 15% DSM + heating at 60^{o}C). Treatment Y_1 obtained the highest overall score amounted to 89.4 followed by Y_2 with overall score of 88.8.
8. The sensory evaluation of T with D spread after storage for three months did not show any significant difference among treatments in all sensory properties except treatments Y_8 Y_9(50% D + 35%T + 15% DSM + heating at 70^{o}C) which obtained significantly lower scores in texture, color, appearance and overall sensory properties.
9. The chemical analyses of T with D spread did not show significant differences among treatments in contents of fat, carbohydrate and energy on both wet and dry weight basis. Moisture content, however, was found to be the highest in treatment Y_1 which amounted to 13.97%, whereas treatment Y_9 showed the highest content of ash and

protein which amounted to 3.25 and 13.04% on wet weight basis and 3.61 and 14.49% on dry weight basis, respectively.

10. The mineral analysis of T with D spread did not show significant differences among treatments in Mg and P contents, while treatment Y_8 contained significantly higher Ca level than Y_1 on wet weight basis and than Y_1, Y_5 and Y_9 on dry weight basis. Treatment Y_9, however, contained significantly more Fe than Y_1, Y_4 andY_5.
11. Each 100gm of T with D spread of treatment Y_2 provide about 17, 21, 37, 37,49 and 144.50% of energy, protein, Ca, P, Mg and Fe, respectively, of the RDA values for man 23-50 years old