



EFFECT OF TOMATO JUICE ADDED TO DIFFERENT RATIO OF CAMEL HEN MEAT ON THE CHEMICAL COMPOSITION OF PROCESSED BURGER

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ABSTRACT

The study was conducted to find out the effect of replacement of old hen meat at levels were (% 25.20.15.10.5) on chemical composition at level were (% 6) the results are reported that camel meat contained % 75.9 moisture, % 15.88 protein, % 9.15 fat and % 1.49 ash while the old hen meat contain 69.8 % moisture, % 16.96 protein, % 19.31 fat and 1% ash observed that camel meat has higher moisture and lower fat compared with hen meat the results are shown the replacement camel meat to decrease moisture and protein and increased of fat in burger meat, also observed that pH value increased with increasing Hen meat in product.

KEY WORDS: chemical characteristics, Camel Meat, Tomato juice.

INTRODUCTION

Contribute moisture single most important key components of meat and dairy products, and any change which affects the sensory properties and chemical for these products has been observed^[10] high moisture in burger by adding vegetable proteins and fats contribute to raising the nutritional value of meat where they are High-energy as well as the content of unsaturated fatty acids, which has become a worth 1% of the food requirements of the people^[4], the fat poultry softer fat meat. The study aimed to find out the effect of tomato juice in the chemical characteristics of the burger.

MATERIALS & METHODS

Meat and fat camel meat and bovine meat and bovine fat deposited around the kidney and hen and use spent Pelvic bones to conduct the carcasses were brought from local market in Najaf province underwent physical separate meat from fat and bond keep it in refrigerator 4 centigrade slicer and fat in to small pieces to facilitate the processes of chopping and put in to bags and kept -18 C until use. The tomato was brought from local market and seeds removed and then squeezed with electric machine and frozen and used for addition. 3-Spice was purchased a total of spice seeds from the local market and grinds each

type separately and then worked mixing them to suit the consumers.

TABLE 1: percentage of spices mix used in manufacture

Percentage	Spice
32.258	Black pepper
19.355	Coriander
12.903	Cumin
12.903	Cinnamon
12.903	Cubeba
06.678	Nutmeg
03.000	Cloves

Pure salt free of impurities was used by 1.5 % of the manufactured product weight and for each treated

The experiment was divided into two sections the first section included five transactions were by replacing meat laying hens replace the old camel steak fat removed from the outside. The second five transactions were by replacing meat laying hens elderly replace segments of camel meat removed from the fat outside the same proportions as the replacement in the first section with the addition of juice, tomato 6% of the weight of a mixture of chicken meat and camel meat, according forgot replacement for each transaction, and as shown in Table ^[2].

Treatment 1	Treatment 2
T1 hen meat % 0+Camel meat 100%	Tomato juice 6%+hen meat 0%+ Camel meat 100%
T2 Hen meat % 25+ Camel meat 75%	Tomato juice % 6 + hen meat % 25+ Camel meat 75%
T3 Hen meat % 50+ Camel meat % 50	Tomato juice % 6+hen meat % 50+Camel meat % 50
T4 Hen meat % 75+camel meat % 25	Tomato juice % 6 hen meat % 75 +camel meat % 25
T5 Hen meat % 100 +camel meat % 0	Tomato juice % 6+hen meat % 100 +camel meat % 0

Note that it has been used 800 grams of steak sentences or chicken meat and mixture of replacement with the addition

of 200 grams of fat beef per transaction of camel meat and chicken for each transaction according to the proportions.

TABLE 3: Amounts elderly and juice of tomato and salt and species

Tomato juice	Beef fat	Camel meat (g)	Camel meat (g)	Treatment	
-	200	-	800	T1	1
48	200	-	800		
-	200	200	600	T2	2
48	200	200	600		
	200	400	400	T3	3
48	200	400	400		
	200	600	400	T4	4
48	200	600	400		
-	200	800	-	T5	5

After calculation the quantities of meat and fat per treatment and chopping pieces of meat and fat by machine and then mix for the purpose of uniformity and distribution of fat with meat and then added tomato juice and underwent the process of mixing the components of each transactions has the manufacturing process to the work of patties of burger meat weighing 50g per patties and placed in polyethylene bags. Separates between the disk and the last piece of nylon and put in the refrigerator degree 4 C for 24 hours has been studied the chemical composition, which includes:-

1. Moisture: estimated percentage of moisture models camel meat and chicken meat and burger meat factory and each transaction by the way^[8] by taking 2 grams of minced meat in crossable with a known weight and introduced in an electric oven and dried until the stability of weight and then refrigerate crossable and weighed.
2. Fat: Fat ratios of dried meat samples were estimated using Skolt device (Sechelt-E extraction unit) by the way^[8] and extracted using Diethyl-Ether.
3. Protein: adopted the method described in^[9] to estimate the proportion nitrogen using Micro-Kjeldahl) and the use of factor 6.25 to calculate the protein content based on the weight wet sample.
4. The amount of ash burn dry samples in the incineration device Muffle-furnace at temperatures of 550 degrees for 8 hours until text weight and by the way in^[8].

5. pH: measured the pH of the transactions based on the method used by the Terrell, R.N. and Lassas, E.W.^[11].

Where taking the sample weight of 10 g of burger meat and added to 100 ml of distilled water and put in a naturalized Homogenizer at 5,000 rpm for 30 seconds to obtain a homogeneous mixture and measured pH using pH device Meter) then cook burger factory drive in an electric oven at a temperature of 160 m until access to a temperature of 75 m disks and Refrigerate wrapped tightly and stored pending analysis conducted by applying s random full design effect of treatment in the studied traits and using statistical software^[10] and moral differences tested using the test^[4].

RESULTS & DISCUSSION

The chemical composition of pure camel meat and chicken meat skim skin, Table (4) shows the chemical composition of the components of burger analysis there is no significant differences in the percentage of moisture in the camel meat and hen meat was recorded 69.83,70.59 respectively. But showed increase the fat of hen meat skim skin was recorded 19.31. and also showed in the table (4) there is no significant differences in the percentage of protein between camel meat and hen meat and was the differences percentage of the ash between camel meat and hen meat was 1.21,1.49 respectively.

TABLE 4: Chemical composition of pure camel and hen meat skim skin

ash%	fat%	protein%	Moisture %	The proportion of camel meat to hen meat
1.49	9.16	15.88	70.59	Camel meat
1.21	19.31	16.96	69.8	Chicken meat

The chemical composition of the cooking burger

In the table (5) showed there is no significant differences in the recipe of fat the treatment T1 recorded the lowest percentage of fat it was 11.969 while the treatment T5

highest percentage of fat 33.438 and the other treatment between 28.438, 21.221, 22.093 for T4, T3, T2, respectively increasing moisture reduce percentage of fat.

TABLE 5: the effect of adding tomato juice center and different ratios of camel meat and hen meat in the Percentage of fat

6% Tomato juice	0% Tomato juice	The proportion of camel meat to hen meat
18.400ab ± 0.766	11.969b ± 0.009	T1
34.020ab ± 14.158	22.093ab ± 2.415	T2
23.025ab ± 0.050	24.221ab ± 0.002	T3
28.438ab ± 1.929	28.438ab ± 0.071	T4
34.018a ± 12.156	33.438a ± .071	T5

Column differ significantly (P < 0.05) Means with different superscripts within each

In Table (6) the study showed Significant differences in the percentage of protein the treatment T5 recorded the lowest percentage of protein was 18.012 while T5

recorded the highest percentage of protein was 20.838 increasing protein by increasing replacement

TABLE 6: the effect of adding tomato juice center and different ratios of camel meat and hen meat in the Percentage of protein

6 % Tomato juice	0 % Tomato juice	The proportion of camel meat to hen mea
22.332a ± 3.310	26.124a ± 3.523	T1
20.838a ± 0.876	20.838a ± 0.876	T2
17.378a ± 4.610	18.012a ± 4.610	T3
20.838a ± 0.876	20.838a ± 0.876	T4
33.105a ± 13.219	20.838a ± 0.876	T5

Components of burger components from camel meat and hen meat *column differ significantly (P < 0.05) Means with different superscripts within each*

The result of table (7) shows the chemical composition of the effect of adding tomato juice center and different ratios of camel meat and chicken meat in the Percentage of moisture in the camel meat and hen meat the treatment T1

recorded highest Score in the recipe of moisture was 78.182 while treatment T5 recorded the lowest score of the moisture cause the camel meat has high moisture %.

TABLE 7: the effect of adding tomato juice center and different ratios of camel meat and hen meat in the Percentage of Moisture

Center tomato juice%		The proportion of camel meat to hen meat
6	0	
80.029e ± 0.001	78.182e ± 0.001	T1
83.898b ± 0.001	77.639e ± 0.001	T2
75.500f ± 0.500	77.584f ± 0.004	T3
69.608g ± 0.001	73.481g ± 0.001	T4
1.203c ± 0.001	72.852h ± 0.001	T5

Column differ significantly (P < 0.05) Means with different superscripts within each

The study showed Significant differences in the percentage of ash T1 recorded highest score percentage of ash was 2.744 while T5 recorded the lowest score was 0.570

TABLE 8: the effect of adding tomato juice center and different ratios of camel meat and hen meat in the rate of ash

% Center Tomato juice		The proportion of camel meat to hen meat
6%	0%	
2.867g ± 0.051	2.744e ± 0.001	T1
0.001 ± 0.30	0.020f ± 0.001	T2
1.850c ± 0.001	1.821b ± 0.001	T3
2.394d ± 0.001	2.345h ± 0.001	T4
.699a ± 0.001	0.570i ± 0.001	T5

Column differ significantly (P < 0.05) Means with different superscripts within each

The table (9) showed that was significant effect in value of pH in burger the treatment T2 recorded highest score while T5 recorded the lowest score in pH.

TABLE 9: the effect of adding tomato juice center and different ratios of camel meat and hen meat in the rate of pH

% Center tomato juice		The proportion of camel meat to hen meat
6%	0%	
5.350a± 0.050	5.350a_+0.050	T1
5.150ab± 0.050	5.250ab ±0.050	T2
5.250ab± 0.050	5.250ab ± 0.050	T3
5.350a± 0.050	5.250ab ±0.050	T4
5.100b± 0.100	5.150ab ±0.050	T5

Column differ significantly (P < 0.05) means with different superscripts within each

REFERENCES

- [1]. Amara, M. S. & Al-Rubii, S.H.H.K. (2008) The Effect of Using Rosemary To Improve e Quality Properties and Sensing of the Shelf-Life of Minced Cold Poultry Meat Fays. J.9 (2)1-18.
- [2]. Ahmed Sadek AL-Sakani (1997) The Effect of Lean Replacement by Fabien Flour on Quality and

- Sensory Characteristics of Fermented Sausages Acidulated by sour Orange Juice .As partial Fulfillment of the Requirements for the degree of master in Agriculture sponce
- [3]. Cross, H. R. (1980) Factors affecting palatability and properties of ground beef patties, frozen lean, patty size and surface treatment. J. Food Sci. 45:1463.
 - [4]. Duncan, D. B. (1955) Multiple range and multiple of test Bio metrics, 11:16.
 - [5]. Ebtesam Hassan Salman Seraj (2011) Effect of Using Natural Additives Enriched With Catechins and Lycopene on Some quality Characteristic of Baffalo Meat during Frozen Storage, as Partial Fulfillment of the Requirements for the degree of master in Agriculture Science.
 - [6]. Hassan M. I brahem (1980) The Use of Tomato Pomace in Feeding of Awassi Sheep as Apartial Fulfillment of the Requirements for the degree of master in Agriculture Science.
 - [7]. Hatem Hason Saleh (2007) Effect of Vitamin E.C and Grapes Extract and concentrate on some Meat Characteristics of Ewes during Frozen Storage .As partial Fulfillment of the Requirements for the degree of master in Agriculture Science.
 - [8]. Lee, T. G. & Williams, S. K. (1997) Development and Evaluation of chicken breakfast sausage manufactured with, mechanically debonnd chicken meat .Poultry Sci.76:415-421.
 - [9]. Rao, L.O., Draughon, F. A. & Melton, C.C. (1984) Sensory characters of thuringer sausage extended with textured soy protien. J.Food Sci. 49: 334 – 337.
 - [10]. SAS (2001) User Guide Statistics .(Verasion 5 ed.) .SAS Inst – Ine. Washington – DC .
 - [11]. Terrell, R.N. and Lassas, E.W. (1981) Cottonseed Proteins in Frank furthers effect on PH, Cared color, and sensory and physical properties J. Food. Sci, 49: 845.