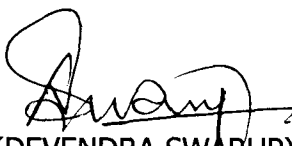


ORIGINAL

ABSTRACT

METHOD OF PREPARING GOAT MEAT AND MILK BISCUITS

A method of preparing and producing a nutritious, high fibre, shelf-stable goat meat or milk protein based snack food products called goat meat or milk biscuits is disclosed. The process involves using proteinaceous material such as, raw comminuted meats that are dried to the moisture level below 5 percent in a hot air oven after mixing with salt and spice mixture. Prior to using the dried meat, it is further powdered to relatively small particles sizes to provide uniform dispersion of the meat components with the farinaceous (refine wheat flour, powdered oat fibre) components of the mixture. This blend containing meat protein, fibre and goat milk, refined wheat flour, sugar or common salt, goat milk cream, butter, milk powder, vanilla powder, essence, pineapple flavor, ammonium bicarbonate to make dough and is subjected to baking at $200 \pm 5^{\circ}\text{C}$ to obtain the goat meat or milk biscuit. Flavorings, tasty spices may be topically applied to the meat or milk biscuit prior to packaging.


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To

**The Controller of Patents,
The Patent Office,
Delhi.**

3.1 Technical field:

The invention is related to meat food products. More particularly, the present invention relates to the processing of goat meat, milk, cereal flours and combinations of these to produce snack food product called goat meat or milk biscuits.

3.2 Background information:

United States Patent Number 7066, describes the discovery of preserving the nutritious part of flesh of any kind into biscuits. Thus in a compact form, the very essence of animal flesh is fitted for the traveler or mariner or for the dwellers of distant cities. Modern consumer's demands food with more functional qualities. The meat food products therefore need to be prepared with anti-stress, adaptogenic components from natural plant sources. The above biscuit is lacking in natural nutritional ingredients from herbal plant sources.

United States Patent Number 6517861 B2, proposes the preparation of herbal biscuits for lactating mother. Medicinal plant materials having lactogenic, anti-stress, and adaptogenic activities are mixed to nutritive flour and prepared a carbohydrate rich herbal biscuits.

The above biscuit have been enriched with herbal plant ingredients but lacks sufficient valuable animal protein to support the essential nutrient requirement of human beings.

These drawbacks will be correctly addressed in this invention of herbal meat biscuit made up of mixture of animal protein and plant ingredients having antistress, antioxidative, immunomodulating and adaptogenic properties.

3.3 Description:

The present invention describes meat based snack food product and methods of making such product. As used herein, the term "meat" generally refers to animal flesh eg. Chevon, goat milk or to a combinations these two or alone. Above meat can be obtained from the young or from old animals or to combinations of different age group and animals obtained from different management systems.

After slaughtering, the lean (edible muscular portion) within half an hour of deboning (hot boning) was packed using manual electric sealer in high-density polyethylene (HDPE) bags and was stored at $-20\pm 2^{\circ}\text{C}$ for 48 hour or more for further use.

After 48 hours meat in the HDPE bag was thawed for 12 hour at $4\pm 1^{\circ}\text{C}$ in a refrigerator followed by mincing in an electric automatic meat mincer by passing through five mm plates.

Minced meat was treated with the salt and dry spice mix followed by drying in the hot air oven till the moisture content close to or below 5 percent and was powdered in a dry mixture grinder.

In a 200 g meat powder, 2000 g Maida (refined wheat flour), 1000 g Sugar or 50 g salt, Goat milk 400 ml, 500 g Goat milk cream, 500 g Butter, 4.0 g Baking powder, 4.0 g Custard powder, 20 g Milk powder, 10 g Vanilla powder, 10 ml Essence, 15 ml Pineapple flavor, and 5 g Ammonium bicarbonate (ABC), 0.30 g dried Tulsi (*Ocimum sanctum*) powder, 0.30 g dried ashwagandha (*Withania somnifera*) roots powder and 0.30 g dried Mulethi (*Glycyrrhiza glabra*) roots powder were added and mixed well and Batter was prepared using an electric dough mixer.

In another embodiment goat milk biscuits were prepared by the following ingredients. In a 350 ml fresh goat milk, 2000 g Maida (refined wheat flour), 1000 g Sugar, 500 g Goat milk cream, 500 g Butter, 4.0 g Baking powder, 4.0 g Custard powder, 20 g Milk powder, 10 g Vanilla powder, 10 ml Essence, 15 ml Pineapple flavor, and 5 g Ammonium bicarbonate (ABC), 0.30 g dried Tulsi (*Ocimum sanctum*) powder, 0.30 g dried ashwagandha (*Withania somnifera*) roots powder and 0.30 g dried Mulethi (*Glycyrrhiza glabra*) roots powder were added and mixed well and Batter was prepared using an electric dough mixer.

From this Batter, every time 1000 g mixture was taken, flattened to about 1 cm thickness on a flat stainless steel platform using a stainless steel roller sticks. Biscuits were shaped by using round (4.2 cm dia. and width 1.0 cm) or square (3X5 cm and width 1.0 cm) shaped stainless steel dye. After that the biscuits were baked at $(200\pm 5^{\circ}\text{C})$ for 15-20 minutes in a stainless steel tray (30X50 cm). The resultant product named as Herbal meat or milk Biscuits.

The resulting meat protein based food exhibited significant amount of protein, dietary fiber, low cholesterol and have good organoleptic properties. Additionally, the Herbal meat Biscuits possesses significant food value. Nutritional content of Herbal meat Biscuits is as follows in Table I.

Table I.

Item	Amount (per 100g) Meat Biscuits	Amount (per 100g) Milk Biscuits
Carbohydrate	66	64
Protein	9.0	7.0
Fat	21	23

Saturated fatty acid	4.0	10.0
Monounsaturated fatty acids	15	7
Polyunsaturated fatty acids	2.0	6.0
Trans fatty acids	00	00
Cholesterol	2.0mg	4.0mg
Mineral	1.0	0.7
Dietary fibre	5.0	5.0
Calorie (Kcal)	490	491

Microbiological count of Herbal meat or milk Biscuits is as follows in Table II.

Table II.

Microorganism	Count			
	Day 1	Day 60	Day 120	Day 180
Total plate count	<10/g	<10/g	<15/g	<20/g
Coliform	Nil	Nil	Nil	Nil
Salmonellae	Negative	Negative	Negative	Negative
<i>Staphylococcus aureus</i>	<1/g	<1/g	<2/g	<2/g

Influence of storage for 60, 120 and 180 days on thiobarbituric acid (TBA) as a measure of oxidative rancidity in the meat or milk biscuits is as follows in Table III.

Table III

Sample No	Mg Malonaldehyde/kg of product			
	Day 1	Day 60	Day 120	Day 180
1	0.23	0.17	0.11	0.14
2	0.18	0.13	0.18	0.13
3	0.24	0.13	0.12	0.16
4	0.64	0.12	0.14	0.15

Thus the invention provides a relatively nutritious, tasty snack product called meat biscuit that has enough crispiness, good storage stability, and low cholesterol, high dietary, fibre and low microbiological organism count.

3.4 References:

1. United States Patent Number 7066, Preparation of portable soup bread by Borden Gail.
2. United States Patent Number 6517861 B2, Composition of herbal biscuits for lactating mothers acting as dietary supplement and process for preparation thereof. by Anil Kumar Singh et al.

We claim:

1. Process for preparing Herbal Biscuits comprising the step of :
 - (i) For the preparation of goat meat herbal biscuits, minced meat was mixed with salt and spice mixture, drying in a hot air oven and powdered,

- (ii) Adding goat milk, refined wheat flour, sugar or common salt, goat milk cream, butter, milk powder, vanilla powder, essence, pineapple flavor, ammonium bicarbonate,
 - (iii) Adding herbs and preparation of dough or batter,
 - (iv) For the preparation of goat milk biscuits, all the above ingredients except goat meat powder was added.
 - (v) The batter was baked and the resultant product was named as Goat meat or Milk biscuits.
2. The process as claimed in claim 1, wherein the minced meat after deboning was frozen for 48hour at $-20\pm 2^{\circ}\text{C}$, thawed for 12 hours at $4\pm 1^{\circ}\text{C}$ and minced through 5 mm plates.
 3. The process as claimed in claim 1 or 2, wherein the minced meat in step (i) is 200 gm and is mixed with 0.7 gm of salt and 1.5 gm of dry spice.
 4. The process as claimed in claim 1 or 2 or 3, the minced meat treated with salt and dry spice mixture was dried in a hot air oven below 5 percent moisture and powdered using a dry mixture grinder.
 5. The process as claimed in claim 1, wherein 200 gm meat powder, 2000 g maida (refined wheat flour), 1000g sugar or 50 g salt, 400 ml goat milk, 500 g Goat milk cream, 500 g Butter, 4.0 g Baking powder, 4.0 g Custard powder, 20 g Milk powder, 10 g Vanilla powder, 10 ml Essence, 15 ml Pineapple flavor, and 5 g Ammonium bicarbonate (ABC), 0.30 g dried Tulsi (*Ocimum sanctum*) powder, 0.30 g dried ashwagandha (*Withania somnifera*) roots powder and 0.30 g dried Mulethi (*Glycyrrhiza glabra*) roots powder were added and final batter was prepared by an electric dough mixture.
 6. The process as claimed in claim 1, in the step (iv) wherein 350 ml of goat milk only used as claimed in the claim 5, all other ingredients are same.
 7. The process as claimed in claim 1, wherein the deep oil frying in step (v) is of 1000 gm of the mixture obtained in the preceding step and flattened on a flat stainless steel platform using a stainless steel roller sticks. Biscuits were shaped by using round (4.2 cm dia. and width 1.0 cm) or square (3X5 cm and width 1.0 cm) shaped stainless steel dye. After that the biscuits were baked at $(200\pm 5^{\circ}\text{C})$ for 15-20 minutes in a stainless steel

tray (30X50 cm).

8. Goat Meat or Milk Biscuit prepared by the method as claimed in any proceeding claim.
9. The process as claimed in claim 1, for method of preparing Goat Meat or Milk Biscuit and the product obtain from said process substantially as herein described.

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