

Nutritious and Delicious Groundnut Preparations: Some Recipes

Compilation

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Preface

Groundnut is valued for both its oil and protein contents. It also contains several vitamins and minerals. Groundnut oil is heart friendly as it is free from cholesterol and its saturated fatty acid content is less than 20%. Unlike other oilseeds, groundnut can be used directly as an item of food and can also easily blend with several foodstuffs. In India a vast majority of people are basically vegetarian and among millions of poverty stricken people, energy-protein malnutrition is observed especially among children. Thus groundnut has all the potential of providing a low cost nutritional supplement to ameliorate this situation. To realize this potential of groundnut it would be necessary to enhance consumption of groundnut in the daily diets of the people. Keeping this objective in view this publication describing recipes for several preparations utilizing groundnut is being brought out. All these recipes are simple to prepare and do not require any special appliance. I hope the housewives will find this information very useful for improving the nutritive quality of the diets of their family.

M.S. Basu

Director
NRCG, Junagadh

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Nutritional Virtues of Groundnut

J.B. Misra*

Nature has designed only a few foodstuffs that are so rich in important nutrients as the kernels of groundnut. The groundnut kernels contain more protein than meat, and two and half times that in eggs, and far more than any other vegetable food except soybean. Thus groundnut is one of the cheapest sources of quality protein.

The nutrient composition of groundnut vis-à-vis major cereals (wheat and rice) is indicated here.

Nutritive value of groundnut and cereals

Constituents	G'nut	Wheat	Rice
Moisture (%)	3.0	12.2	13.7
Protein (%)	25.3	12.1	6.8
Fat (%)	40.1	1.7	0.5
Minerals (%)	2.4	2.7	0.6
Fibre (%)	3.1	1.9	0.2
Carbohydrate (%)	26.1	69.4	78.4
Energy (Kcal)	567	341	345
Ca (mg)	90	48	10
P (mg)	350	355	160
Fe (mg)	2.5	4.9	0.7
Carotene (µg)	37	29	0
Thiamine (mg)	0.90	0.49	0.06
Riboflavin (mg)	0.13	0.17	0.06
Niacin (mg)	19.9	4.3	1.9

With 20-26% protein, 40-48% oil, and about 3% fiber and high calcium, thiamine and niacin contents, it has all the potential to be used as highly economical food-supplement to fight malnutrition that occurs due to deficiencies of these nutrients in the cereal grains like wheat and rice. Thus groundnut is nature's gift to man and especially so to children, pregnant and nursing women and the poor. The nutritive virtues of groundnuts have attracted the attention of National Aeronautics and Space Administration of the USA.

* Principal Scientist (Biochemistry)

They have identified groundnut as a possible food for advance life support system for extended space missions.

In-shell roasted groundnuts, sold by hawkers around public places, cinema halls, theatres, fairs, exhibitions, shopping plazas, etc., are one of the most popular snack foods in India. Since groundnut is highly satiating, it checks the appetite and is hence popular among figure conscious people.

Groundnut is unique among oilseeds as it can be consumed directly as well as after blending with a variety of foodstuffs. A handful of groundnut soaked overnight and then pressure cooked with other ingredients of *samber* enriches it with flavour and protein. The traditional Indian cookery uses groundnut to prepare a variety of delicious and nutritious dishes. Some of these are being described here.

In India more than 80 percent of total groundnut production is crushed for oil extraction. The residue (cake and meal) is used as livestock feed concentrate. Groundnut oil is considered an excellent cooking medium in Indian cookery.

Groundnut protein isolates are used in a number of food preparations for protein enrichment. Composite flour can be prepared by grinding together groundnuts (10-25 percent) with any other cereal grains (wheat, *bajra*, tapioca, rice, maize etc.). '*Paushtik Aatta*' - a highly nutritious flour can be prepared by mixing 75 percent whole wheat flour, 1 percent tapioca flour and 8 percent peanut flour.

This compilation is aimed at enhancing awareness about the nutritive virtues of groundnut among people and at the same time helping them bringing together at one place the various traditional Indian preparations that can be made from groundnut.

All the portions of groundnut plant are valuable. The roots of groundnut fix atmospheric nitrogen by symbiotic association with the bacterium *Rhizobium* and thereby reducing the requirement of the external application of nitrogen fertilizers of the following crop. The husk that is left behind after shelling can be utilized in many ways. One of the popular products is 'white coal' which is used as an industrial fuel.



1. Peanut Butter



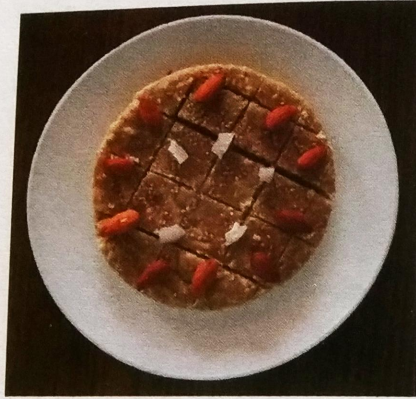
Ingredients:

roasted groundnuts	1½ cup
salt	½ tsp
sugar	¾ tsp
refined groundnut oil	1 tbs

Procedure:

- Split each kernel into half and remove the heart (germ).
- Discard the hearts by sieving and the spoilt and discoloured kernels by handpicking.
- Heat the de-skinned halves in a pan; allow a little cooling and while still warm, grind in blender with salt and sugar at low speed for about 10 seconds.
- Mix the contents in the blender with a spatula and run the mixer again at a low speed adding oil gradually and then at high speed for a minute. Remove the contents to a glass jar and allow maturing for about two hours before use.
- Store in refrigerator.

2. Groundnut Burfi-1



Ingredients:

groundnut kernels	200 g
sugar	200 g
water	½ cup
groundnut oil	1 tsp
sesame (<i>til</i>) seeds	1 tsp
grated dry coconut	1 tsp
chopped dry fruits (optional)	a little
cardamom (<i>illaichi</i>) powder	1 tsp
nutmeg (<i>jaiphal</i>) powder	1 tsp

Procedure:

- Roast kernels in a *karahi* (deep pan) for about 10-15 minutes. Cool and remove skins and then grind to obtain a coarse powder.
- Prepare sugar syrup by heating sugar and water in another *karahi*. Continue heating till the syrup is of about one thread consistency.
- Add groundnut powder, *illaichi* powder and nutmeg powder and stir.
- Add oil and cook with continuous stirring on a low flame till the mixture leaves the sides of the *karahi*.
- Immediately spread it on a greased plate and garnish it with *til* seeds, grated coconut and other chopped dry fruits.
- Allow it to cool and then cut into rectangular pieces. It stays for 8-10 days without refrigeration.

3. Groundnut *Burfi*-2



Ingredients:

groundnut kernels	250 g
sugar	200 g
<i>ghee</i>	10 g
water	100 ml

Procedure:

- Roast groundnut and then remove the skin and grind to a fine powder.
- Add water to sugar in a pan and cook for about 5 minutes on medium heat and check consistency by putting a drop of hot sugar syrup into half a cup of water at room temperature. Remove this solidified drop with fingers and break it. If it is crisp it is ready.
- Add groundnut powder in to this syrup.
- Mix well and pour in a greased *thali* (flat dish).
- Store in a jar.

4. Groundnut Chutney Relish



Ingredients:

groundnut seeds	50 g
fresh coconut pieces	100 g
green chillies	4 to 5
ginger piece	1.5 inch
fresh curd	2 cups
salt to taste	
for the seasoning	
mustard (<i>rai</i>) seeds	1/3 tsp
curry leaves	8 to 10
groundnut oil	2 tsp

Procedure:

- Place groundnuts in a *karahi* and roast on slow flame for 10 minutes stirring frequently. Allow cooling and remove the skin.
- Grind together de-skinned kernels, coconut pieces, chopped green chillies, ginger, curd and salt to a smooth paste.
- Transfer the chutney into a serving bowl.
- Heat oil in a pan and add mustard seeds. When it splutters, add curry leaves and add this seasoning to the chutney.

5. Crunchy-Nutty-Chocolate



Ingredients:

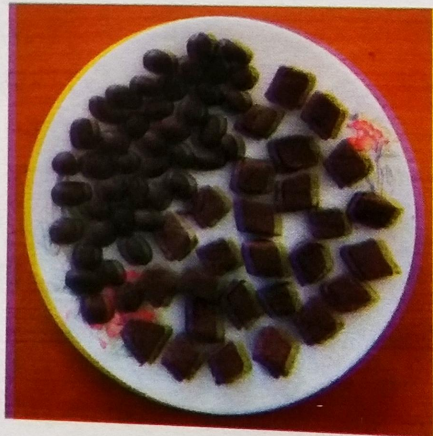
groundnut seeds	200 g
gum (<i>gond-katira</i>) granules	30 g
sugar	175 g
water	½ cup
groundnut oil	1 tsp
instant drinking chocolate	10-15 tsp
cold milk	15-20 ml
caster sugar	5-6 tsp
<i>illaichi</i> powder	1 tsp
nutmeg (<i>jaiphal</i>) powder	1 tsp
dry fruits (<i>kismish, kaju and badam</i>)	15-20 g
silver coated sugar balls	2-3 tsp
groundnut oil for frying	

Procedure:

- Roast groundnut seeds in a *karahi* with continuous stirring for about 10-15 minutes. Cool and remove their skin.
- Grind the de-skinned seeds into a coarse powder.
- Fry gum granules in a pan and mix them with the groundnut powder, add *illaichi* and nutmeg powders and mix well.
- Prepare sugar syrup by heating sugar and water in a pan. Continue

- heating till the syrup is of about one thread consistency.
- Add groundnut-gum-illaichi-nutmeg mixture into this sugar syrup and stir well.
 - Add oil and cook with continuous stirring on low flame till the mixture leaves the sides of the *karahi*.
 - Immediately spread it on a greased tray/plate to make a one-inch thick layer.
 - Cool for 3-4 hours.
 - Fry the dry fruits a little and chop them when cool. Take milk in a bowl and mix the chocolate powder and caster sugar so as to form a thick paste of chocolate.
 - Add some chopped dry fruits in it and spread this chocolate paste on base prepared above. Garnish with the rest of the chopped dry fruits.
 - Refrigerate it for 4-5 hours. Remove and garnish with silver-coated sugar balls.
 - Cut into square pieces and serve.

6. Nut Chocolate



Ingredients:

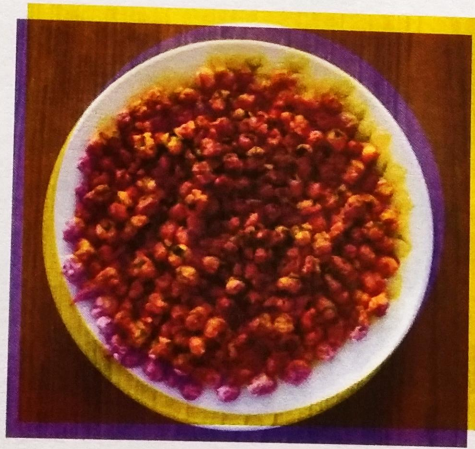
fresh butter	125 g
cocoa powder	50 g
drinking chocolate powder	10 g
milk powder	200 g

groundnut powder (fine)	75 g
sugar	125 g

Procedure:

- Sieve milk powder to remove any lumps. Mix with a cup of water to make a batter.
- Cook this in a heavy bottom *karahi* with continuous stirring till it thickens.
- Add sugar and continue to cook till it is of semi solid consistency.
- Remove from fire. Mix butter, sieved cocoa, drinking chocolate powder and stir well.
- Put it back on fire and stir till it becomes like a ball. To test if it is ready, pour a little mixture in water and if it floats like a ball remove from fire.
- Add groundnut powder and mix well. Put it back on fire, pour in greased square plate and level the top.

7. Crispy Masala Groundnuts



Ingredients:

roasted groundnut seeds	200 g
<i>besan</i> (Bengal gram flour)	100 g
red chilly powder	$\frac{1}{2}$ tsp
cumin seed coarse powder	1 tsp

turmeric powder	¼ tsp
coriander (<i>dhania</i>) powder	1 tsp
<i>amchoor</i> (dry mango) powder	½ tsp
baking soda	a pinch
salt	½ tsp
groundnut oil	2 tsp
water	1-2 cups
<i>chat-masala</i> for garnishing	3 to 4 tsp
groundnut oil for frying	

Procedure:

- Heat oil in a *karahi*.
- Mix all the ingredients except *chat-masala* in a plate.
- Divide the groundnuts and the *masala* mixture into 4 or more equal parts such that each part can be fried at one time. Sprinkle a little water on one portion of groundnuts and also on one *masala* part.
- Mix these gently so that the *masala* layer gets coated on the groundnuts.
- Fry these *masala*-coated groundnuts in hot oil and at a low flame stirring frequently.
- Break any lumps if formed, and remove when brown. Sprinkle *chat masala* immediately on them.
- Allow to cool and serve.
- Store in airtight container. They keep well for 10-15 days.

8. Groundnut *Shakarpare*



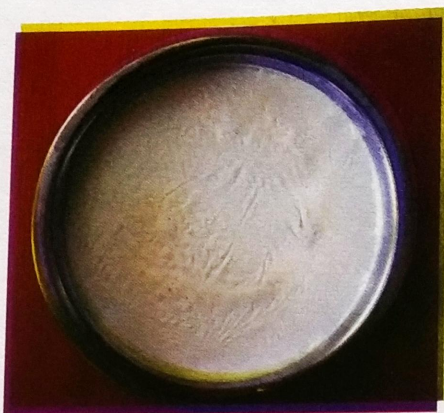
Ingredients:

groundnut seeds	100 g
sugar	100 g
water	100 ml

Procedure:

- Roast groundnut seeds in a *karahi* on low flame with continuous stirring for about 10-15 minutes.
- Cool for a few minutes.
- Prepare sugar syrup by heating sugar and water in a pan. Continue heating till the syrup is of two-thread consistency.
- Add roasted groundnuts with skins to it.
- Stir continuously. Continue cooking on low flame till the syrup starts to dry.
- Remove the pan from fire and continue stirring till the entire syrup gets dried up and each sugarcoated groundnut seed gets separated.
- Allow it to cool for 10-15 minutes and serve.
- Store in a clean dry container. It stays for about 15 days without refrigeration.

9. Groundnut Milk and Curd



Milk

Ingredients:

groundnut	250 g
sugar	15 g
water	1.5 L

Procedure:

- Roast groundnut kernels slightly. Cool and remove skin.
- Split each kernel into halves and remove the heart (germ).
- Discard the hearts by sieving and the spoilt and discoloured kernels by handpicking.
- Place groundnut halves in mixer and grind at a low speed to form a groundnut paste
- Add water and sugar to the paste and grind first at low speed and then at high speed for about two minutes. Leave for 10 minutes.
- Remove the contents into a strainer or pass through a cloth to extract the milk. Keep the residue (milk residue) aside for preparing groundnut *halwa* and other preparations described later.
- Boil the milk and use. Add green cardamom powder before boiling for flavour (optional).

Curd

Procedure:

- Add starter (dairy milk curd) to lukewarm milk and mix well.
- Cover with a lid and leave undisturbed for about 6 hours.

10. Groundnut *Halwa*



Ingredients:

milk residue	1 cup
milk powder	1 cup
sugar	3/4 cup
<i>ghee</i>	3 tbp.

Procedure:

- Mix the first three ingredients in a pan.
- Add *ghee* in small quantities at a time and cook with continuous stirring.
- Continue heating till the entire mass leaves the sides of the pan.
- Transfer to a greased plate.
- Cool a little and serve.

11. Groundnut Vada and Chutney



Vada

Ingredients:

milk residue	1 cup
sago powder	1/2 cup
coriander leaves and curry leaves	
green chilly	to taste
ginger	50 g.
salt and sugar	to taste
lime juice	to taste
asafetida	a pinch
groundnut oil for deep frying	

Procedure:

- Grind together coriander leaves, curry leaves, green chilly, ginger, salt, sugar and lime juice.
- Add the above to groundnut milk residue and sago powder and grind to a paste. Add asafetida and mix well. Keep it for 1 hour.
- Prepare round *vada*'s and deep fry.

Chutney

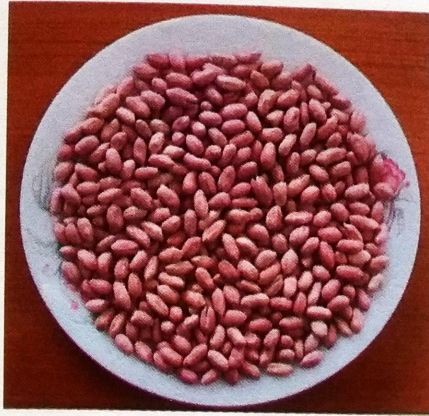
Ingredients:

Groundnut curd, mint leaves, coriander leaves, curry leaves, green chilly, ginger, salt and sugar.

Procedure:

- Grind together mint leaves, coriander leaves, curry leaves, green chilly, salt and sugar to a paste in a blender.
- Mix the paste with groundnut curd.

12. Salted Groundnut



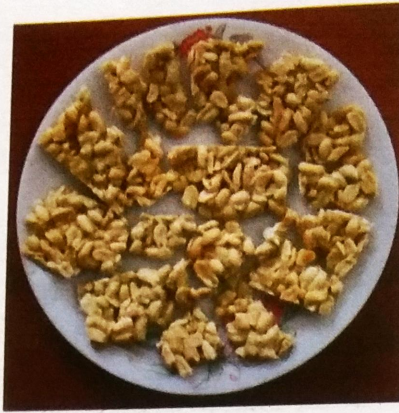
Ingredients:

groundnut kernels	300 g
common salt	12 g
water	300 ml

Procedure:

- Soak groundnut kernels in salt-water (4%) for about 12 hours.
- Remove and allow drying.
- Roast the kernels in hot sand/oven till slight brown.
- Peel off the skin.
- Pack in polythene bags or glass bottle with airtight lid.

13. Groundnut Chikki



Ingredients:

groundnut kernels	250 g
jaggery	150 g
<i>ghee</i> (to grease)	10 g
water	10 ml

Procedure:

- Roast groundnut and remove its skin. Split whole kernel in to halves.
- Take jaggery in a frying pan and heat till it becomes like a soft paste.
- Add groundnut halves, mix well and then transfer the mixture to a greased flat plate and spread evenly.
- Allow to cool and then cut into pieces.
- Store in air-tight container.

14. Groundnut Flakes



Ingredients:

groundnut kernels	300 g
salt	10g

Procedure:

- Dissolve salt in water enough to submerge the groundnut kernels.
- Leave overnight.
- Drain off the salty water and replace with plain water. Heat the content and allow to boil for ten minutes.
- Drain off the excess water and spread kernels between the two layers of a brown paper. Crush each kernel with a wooden hammer or pestle to obtain flakes.
- Dry roast the flakes in a *karahi* or oven.
- Store in plastic or glass bottle with air-tight lid.

15. Groundnut Gujjhia



Ingredients:

for the covering:

white flour (<i>maida</i>)	200 g
groundnut oil	100 ml
water	2 cups

for the filling:

groundnut seeds	100 g
roasted semolina (<i>suji</i>)	50 g
<i>khoya</i> (<i>mawa</i>)	100 g
desiccated grated coconut	25 g
sesame (<i>til</i>) seeds	25 g
caster sugar	300 g
cardamom (<i>illaichi</i>) powder	1 tsp
nutmeg powder (<i>jaiphal</i>)	1 tsp
chopped dry fruits	50 g
Groundnut oil for frying	

Procedure:

Preparation of the dough

- Heat oil slightly and mix it well with flour.
- Slowly add sufficient water to knead it into tight dough.

Preparation of the filling

- Roast the groundnuts, cool and remove the skins and grind them into a coarse powder.
- Add to it coarsely ground *til* powder and mix well.
- Add rest of the ingredients of the filling and mix well.

Preparation of *gujjhia*

- Make 20 balls of equal size from the dough. Divide the filling mixture into equal number of parts.
- Roll out each ball into a circular *puri* of about 9-10 cms diameter.
- Place the filling on one side in each *puri*. Fold the other side and cover the filling and seal the edges by moistening the brim and pressing the edges with fingers.
- Heat oil in a *karahi* and fry *gujjhias* on low flame till brown. Serve cool. These *gujjhias* can stay without refrigeration for 8-10 days.

16. *Khasta* Groundnut *Kachori*



Ingredients:

for the covering:

maida (white flour)	100 g
groundnut oil, little warm	50-60 ml
water	1 cup

for the filling:

groundnut kernels	100 g
red-chilly powder	1 tsp
<i>dhania</i> (coriander) powder	1 tsp
<i>jeera</i> (cumin) powder (coarse)	1 tsp
<i>saunf</i> (fennel) powder (coarse)	1 tsp
<i>hing</i> (asafetida) powder	1/3 tsp
<i>amchoor</i> (dry mango) powder	1 tsp
salt to taste	
groundnut oil for frying	

Procedure:

Preparation of dough

- Add the warm oil to the flour and mix thoroughly.
- To this slowly add sufficient water to knead into a tight-dough and keep it covered with a wet cloth.

Preparation of the filling

- Roast the groundnuts and when slightly cool, remove their skins.
- Grind to a coarse powder. To this add the rest of the ingredients of the filling and mix well.

Preparation of the *kachori*

- Divide the dough prepared above into 14-15 equal parts and form balls.
- Divide the filling mixture also into equal number of parts.
- Roll out each ball into a circular *puri* of about 8-9 cm diameter.
- Place the filling in the centre of each *puri*. Fold the edges, and with wet fingers, seal them in the centre.
- Roll out with the palm of the hand into a small *puri* of about 6-7cm diameter.
- Heat the oil for frying in a *karahi*.
- Deep fry on low flame till brown.
- Serve hot with groundnut *chutney* or *khatti-mithi-imli-chutney*.
- Store in an airtight container. It stays for about 8-10 days without refrigeration.

17. Groundnut Chapati



Ingredients:

wheat grains	450 g
groundnut kernels	50 g

Procedure:

- Grind the wheat and groundnut kernels in a blender to a fine powder.
- Knead the composite flour to prepare dough.
- Prepare small balls for rolling out *chapati*
- Cook *chapati* on a hot *tawa* in the same way as wheat-flour *chapati* is cooked

18. Groundnut *illaichi-dana*



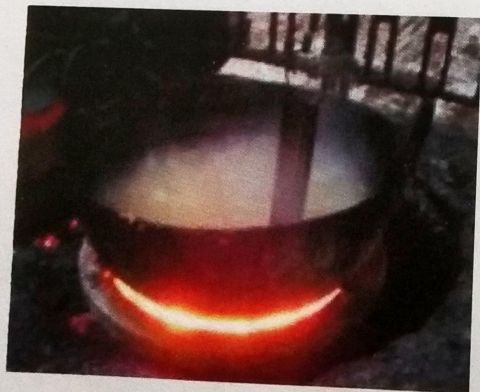
Ingredients:

groundnut kernels	1000g
sugar	6000g

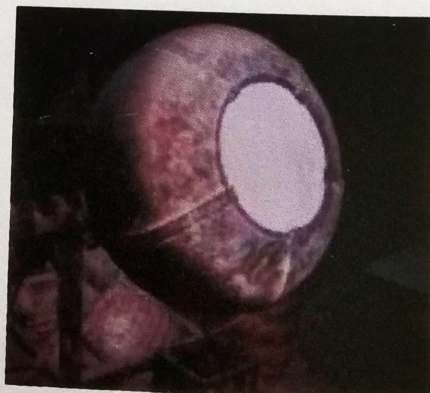
Procedure:

This preparation is usually produced at cottage industry level, as this requires special machinery called *handi* (a spinning-vessel made of copper).

- Prepare sugar syrup of a thick consistency.
- Transfer kernels to hot *handi*.
- Add one-fourth portion of hot syrup in the spin-roasting container at a time and allow the syrup to set on the kernels. Add the remaining syrup in three lots with suitable intervals for binding of syrup on kernels.
- Remove the sugar-coated kernels and allow cooling before packing.



Hot Sugar Syrup



Spinning *Handi*

Nutritive value of groundnut preparations

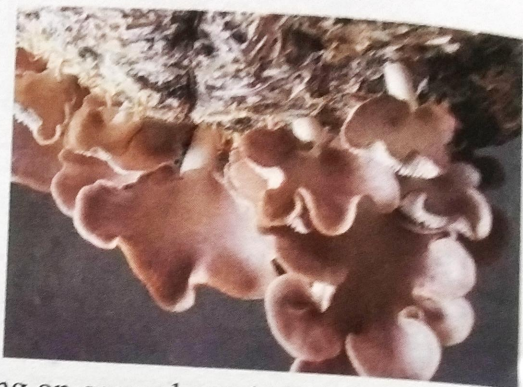
Preparation	Content (approx.) per 100 g					
	Energy (Kcal)	Carbohydrates (g)	Protein (g)	Fats (g)	Minerals (g)	Fibre (g)
1. Peanut butter ✓	578	29	24	40	4	3
2. Groundnut <i>burfi</i> -1	491	13	12	22	1	2
3. Groundnut <i>burfi</i> -2	512	15	14	25	1	2
4. Groundnut <i>chutney</i> relish	217	8	6	18	1	1
5. Crunchy nutty chocolate	468	59	12	20	1	1
6. Nut chocolate	452	35	11	30	3	0
7. Crispy <i>masala</i> groundnuts ✓	554	29	24	35	2	3
8. Groundnut <i>shakarpare</i>	483	63	13	20	1	2
9. Groundnut milk or curd	98	5	4	7	0	1
10. Groundnut <i>halwa</i>	630	32	9	52	2	0.5
11. Groundnut <i>vada</i>	419	43	14	21	1	2
12. Salted groundnuts	567	26.1	25.3	40.1	2.8	3.1
13. Groundnut <i>chikki</i>	596	19	18	32	2	2
14. Groundnut flakes	567	26.1	25.3	40.1	2.8	3.1
15. Groundnut <i>gujjhia</i>	533	61	9	22	1	1
16. <i>Khasta</i> groundnut <i>kachori</i>	560	39	14	39	1	1
17. Wheat-groundnut <i>chapati</i>	368	66.7	13.2	5.4	1.6	1.4
18. Groundnut <i>illaichi-dana</i>	422	89	4	6	0.4	0.4

- Salted
 - Sugar
 - Chikki
 - Burfi/Mandi Pakle
 - Ilaichi Dhanu

Value Addition in Groundnut By-products

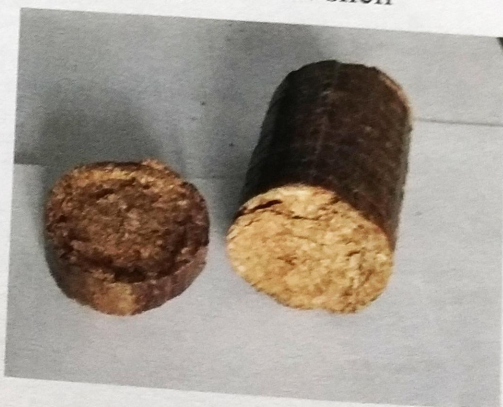
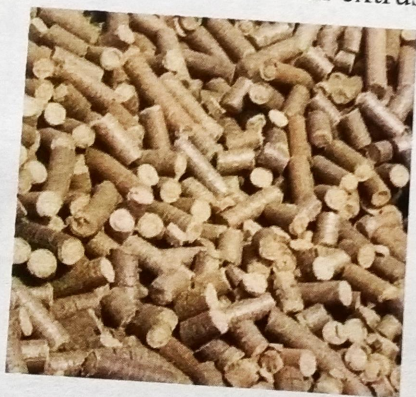
The by-products of groundnut oil industry, i.e. shell and groundnut cakes can be utilized as a raw material for value addition. Many of these products can be produced at cottage industry level in rural areas without making much investment while others may require a little investment as well as expertise.

Some value-added products are shown below.



Oyster mushroom growing on groundnut shell

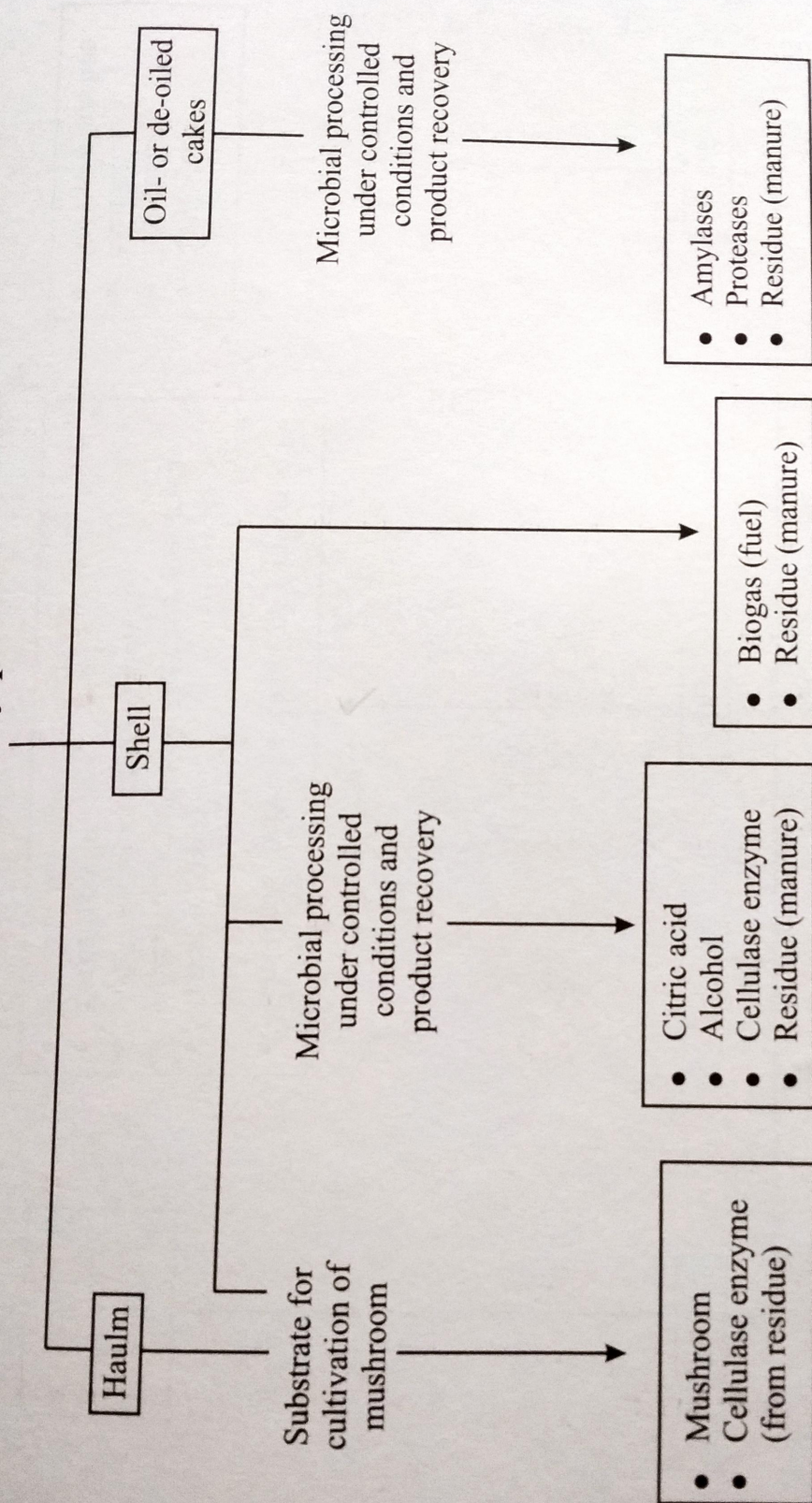
White coal: an extrusion product of groundnut shell



Various possible options open for entrepreneurs for value addition are shown in form of flow charts on pages 25 and 26.

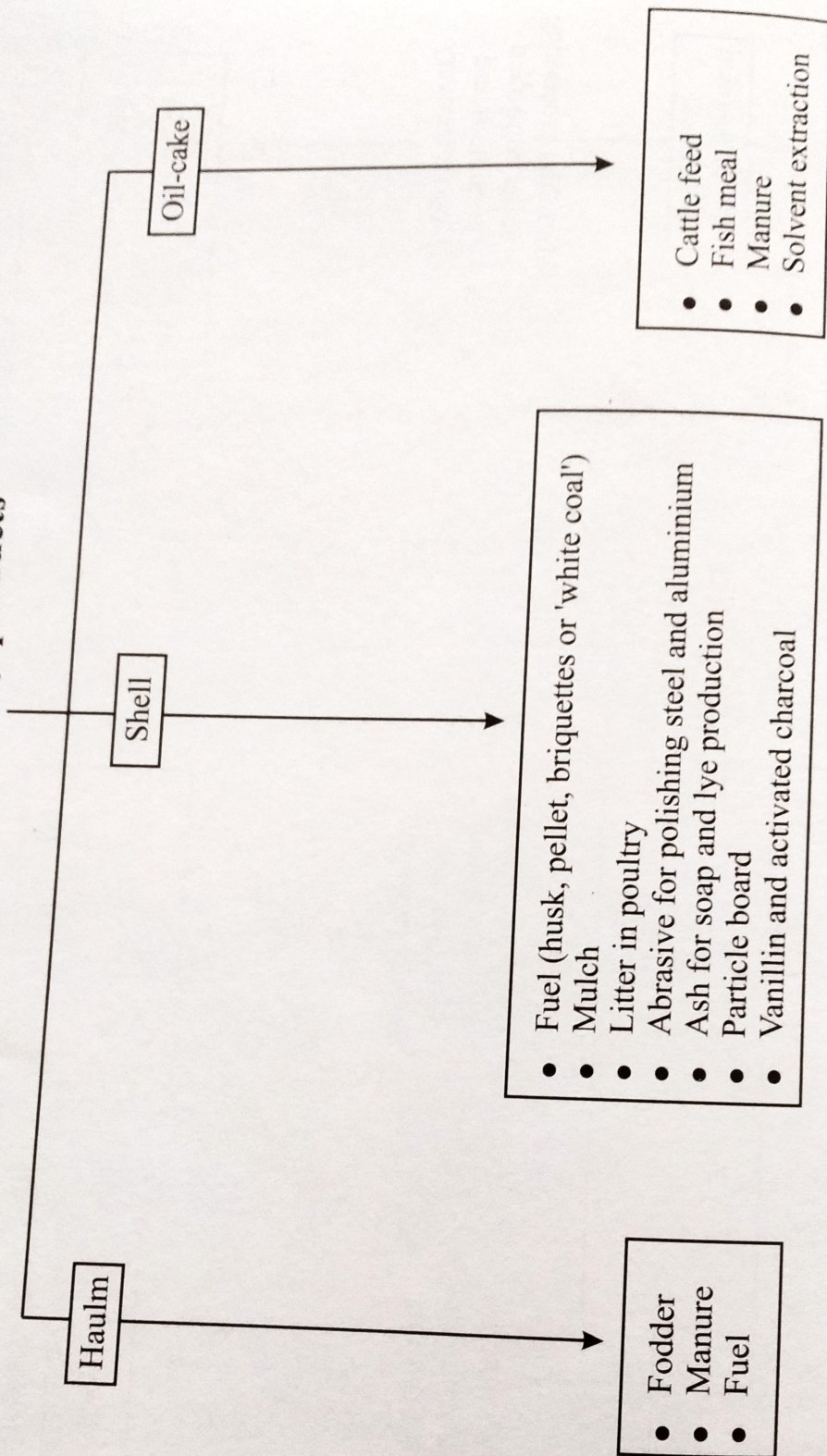
For further details, readers may please write to the Director, National Research Centre for Groundnut, P. B. Box 5, Junagadh-362001.

Groundnut by-products



Utilization of groundnut by-products by microbial processing

Groundnut by-products



Direct utilization of groundnut by-products