

Maize In The Ghanaian Diet

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Occurrence and significance of maize in Ghana

MAIZE (*Zea mays*) is an important food crop which is grown throughout Ghana. Commercial production is fairly well spread in districts in the southern part of the country: the Apam-Swedru, Adidwan-Wenchi, Aseewa-Bisa and Frankadua-Kpandu districts, and to a lesser extent in the drier northern parts of the country.

Two types of maize, based on grain colour occur in Ghana: white and red maize. The white variety occurs in two sub-varieties—large and small, and is the most popular type grown. The red variety is found mostly in the Nzema districts in the South western part of the country.

As the cereal most widely used for food in Ghana, maize contributes significantly to the total calorie and protein contents of the diet. The National Food and Nutrition Survey (1962) found out that maize furnished between 90 and 95 per cent of the total calories in the diet of the people in the coastal plains. However, consumption of the grain is less extensive in the northern areas of Ghana where guinea corn (*sorghum vulgare*) and millet (*Pennisetum typhoideum*) are the chief staples (see other cereals) in Northern Ghana. In the north, according to the Survey, maize supplied only 6–34 per cent of the total calories, while millet and guinea corn together provided up to 96 per cent of the total calories.

Because maize is easy to prepare it is readily adaptable for various dishes in most parts of

the country. For instance, the different tribes have their favourite or special preparations, sometimes of the same dish, and these are trade marks in themselves. Thus, tribal variations in the preparation of kenkey have given rise to such specialities as Ga kenkey and Fanti kenkey.

Maize can possibly enter into all the three meals of the day without creating any monotony, because foods made from maize range from highly fermented solid whole meal products to the very refined, less fermented ones and paps. Customarily, there is no strict order about the time of serving any of these foods. Exceptionally, gruels, porridges or paps are commonly served for breakfast and as invalid dishes. Solid and semi-solid maize preparations are served with soups or stews for main meals. For snacks, some may be mashed in water and served with sugar and milk.

It is significant to note also that the traditional packaging materials used in wrapping certain maize foods, sometimes impart special flavours to them. This serves to distinguish, organoleptically, the different maize preparations and further trade-marks the product. For example, plantain (*Musa paradisiaca*) leaves are used on Fanti Kenkey while corn sheaths are used on Ga Kenkey and Kokui. Elsewhere, among the Ewes, cassava (*Manihot utilissima*) leaves ingeniously arranged in several layers on maize food products serve as wrappers with a touch of their own.

Purpose of this survey

On the other hand, many of the products derived from maize have not been fully documented, there being in fact, little or no comprehensively written material on those aspects of maize of relevance to further development of this product.

While the information assembled on these pages is by no means intended to exhaustively fill any gaps (in fact, it does not entirely provide a quantitative basis for recipes) it is hoped that it would serve as a criterion for the characterization and definition of maize foods, something presently unavailable. There is of course also the need to undertake further research into the fate of essential nutrients as influenced by the

processing and preparation of maize foods by Ghanaian methods, and perhaps also (from the industrial angle) to develop technology for the processing of these foodstuffs at both the household and the commercial level.

TYPE OF MAIZE FOODS

Table 2 presents a summary of the different types of maize foods with a discussion of their preliminary treatment.

Commonly in Ghana, raw maize is soaked and in some cases refined, then ground and further moistened and made into dough, following which it is fermented. This dough then serves as the basis for several local dishes including kenkey, banku and akple.

In another method, the maize is not processed into dough as such. Instead it is used directly as the whole grain or processed in one of three ways prior to use. These include:

1. processing it into grit form,
2. grinding it into a meal, and
3. fermenting it for use in the making of beverages.

Prior to grinding in 2, however, the raw maize may sometimes be pre-roasted, in which case the resulting meal is referred to as *Ablemamu* (Ga), or *Wototoe* (Ewe) or *Eburowsam* (Akan).

Another important scheme of classification is one based on the consistency and water content of maize dough products. Under this scheme, the products are divided into three broad classes:

- (1) **The solid (caky) products** with moisture content varying from 60 to 73 per cent (example: **kenkey** and **abolo** representing the compact sub-variety, and **amo yakayake** or **kpokpoi**, which comprise of the loose type:
- (2) **The semi-solid products**, with moisture content of 74—86 per cent, and exemplified by a stiff variety, **banku**, and soft type, **akple**
- (3) **The liquidized maize products**, with moisture content of over 87 per cent, which depending on their consistency may be sub-divided further into three sub-groups: (a) the porridges—which are thicker, example, **koklui**; (b) the gruels which are of

medium consistency, e.g. **kpokponsu** and (c) the paps, such as **akatsa** which are of lighter* consistency.

Of interest is the fact that as the moisture content of maize foods increases, their energy (Calorie) value tends to go down. (Table 1). Thus the calorie values of the solid and caky products such as kenkey and abolo, (moisture content over 66 per cent) are much higher than those of ekuegbemi and akatsa (moisture content over 88 per cent). This moisture—calorie relationship is also true of the moisture—total carbohydrate relationship. However, the quantity protein in these products tends to vary directly as the Calorie.

MAIZE IN NUTRITION

Nutritionally, the aleurone layer and the germ contain most of the protein and vitamins present in the maize grain. The removal of these parts during processing, will result in decrease in the nutritive value of the product. The method of preparation is also known to affect the value of maize as food (FAO, 1953).

The following are the nutritional advantages and disadvantages associated with processing and cooking procedures of maize (Dema, 1965; Ankras, 1970). Wet whole meal: Soaking of the grain softens the bran and induces fermentation in the dough and quite possibly causes an increase in the level of B-vitamins.

Boiling (as in the cooking of Ga kenkey) tends to extract most of the water-soluble vitamins (the B-group) into the boiling water. The practice of drinking this liquid is therefore nutritionally sound.

Wet refined meal: This form of processing has the advantage of rendering the grain easily digestible because of the reduction in the fiber content during the process. However, the removal of the bran and the excessive washing of the grits to obtain a completely white meal, often results in a general loss of protein and vitamins, leaving a product that is almost pure carbohydrate.

* It is evident that the use of the words **porridge**, **gruel** and **pap** in this discussion may be misleading to many readers since their conventional (or dictionary) meanings have been somewhat disregarded here. This means purely on the basis of local usage and must be viewed from that context only.



Making 'Aflata' for Kenkey.

Dry whole meal: The grinding of the grains whole does ensure the inclusion of all its parts in the meal. And when sifting is done, the chaff can be re-ground so that actual loss of grain fractions is reduced to a minimum.

The roasting of dry grains increases the digestibility of the maize.

Other preparations: Long periods of fermentation and sprouting of maize grains for the brewing of beverage drinks increased the riboflavin content of the product. Besides, the thick unrefined maize drinks (e.g. Ahliho, Tuie or Yolo) provide partially digested materials, while combinations of maize with such foodstuffs as grain legumes and groundnuts also play a role in protein supplementation.

TABLE 1
COMPOSITION OF SELECTED MAIZE FOODS

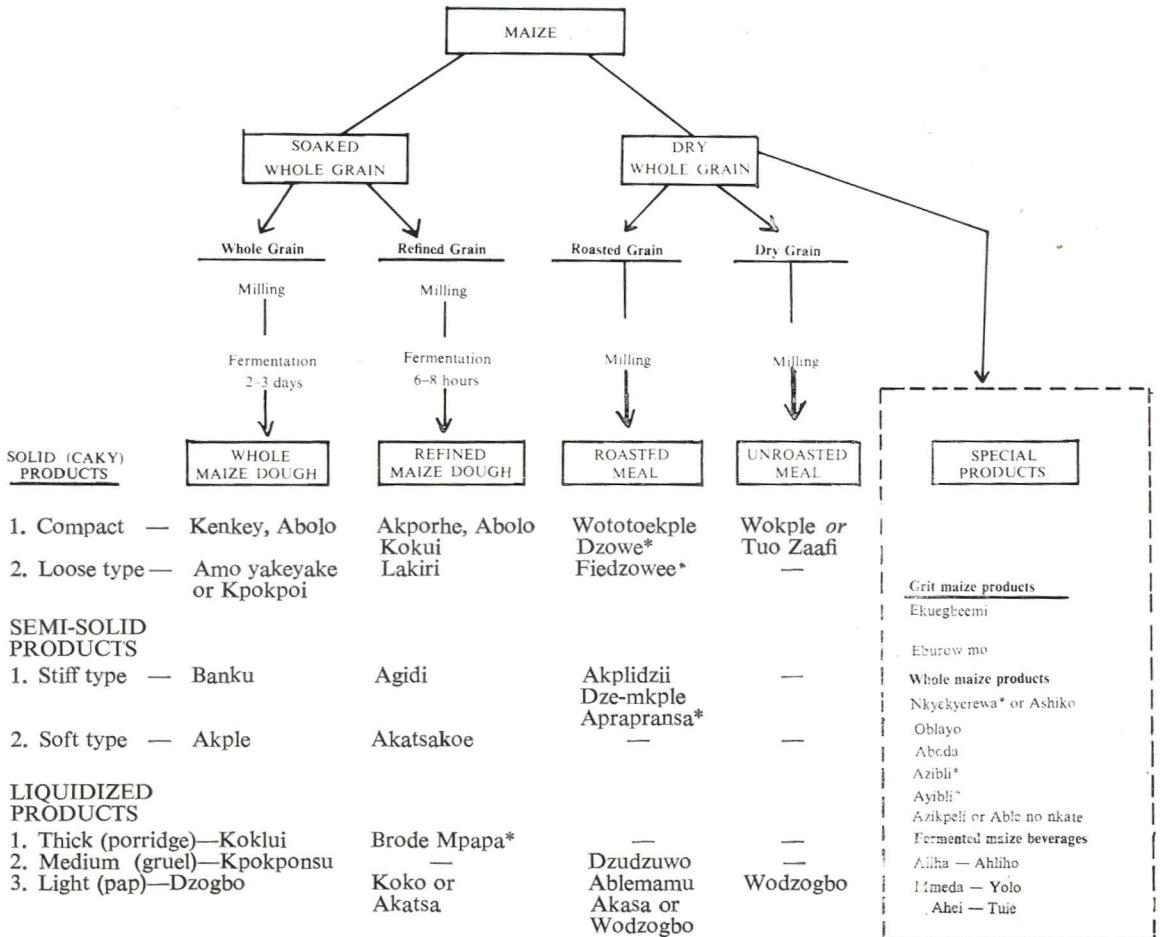
(All values based on 100 gm. of edible portion)

		Calories	Moisture (g)	Protein (g)	Fat (g)	CHO inc. fibre (g)	Crude fibre (g)	Ash (g)	Ca. (mg)	P. (mg)	Fe (mg)
Liquidized Products	Akasa	26	93.3	0.7	0.1	5.7	0.01	0.2	14	23	0.1
	Ekuegbeemli ..	42	88.9	1.0	Tr.	9.8	0.05	0.3	14	3	0.3
	Oblayoo	44	87.4	1.3	Tr.	10.8	—	0.5	3	14	0.7
Semi-solid products	Agidi	69	81.9	2.0	Tr.	16.0	0.01	0.1	5	60	3.7
	Akple	94	76.2	1.6	0.5	21.3	0.3	0.4	24	51	0.3
	Banku	96	74.1	3.8	0.1	21.1	0.1	0.9	4	70	4.0
Solid or caky products	Abolo 1	109	70.9	4.8	0.2	23.3	0.8	0.8	26	103	2.1
	Egble	126	69.9	3.6	0.4	28.0	0.08	0.1	48	47	2.2
	Kenkey 2	129	66.2	5.0	0.1	28.2	0.03	0.5	12	110	2.0
	Fonfom	154	60.5	3.9	0.1	35.2	0.5	0.3	6	76	3.8
Maize dough 3		201	48.0	5.1	0.2	46.0	0.7	0.7	16	160	4.5
Ablemamam or Wototoe or Ebu-rosam		371	7.4	9.8	4.0	77.2	1.5	1.6	8	310	8.5

- 1 whole grain, baked.
- 2 Fanti variety.
- 3 from white maize.

Source: Food Analysis Section, Food Research Institute, (CSIR), Accra.

TABLE 2 — CLASSIFICATION OF MAIZE FOOD

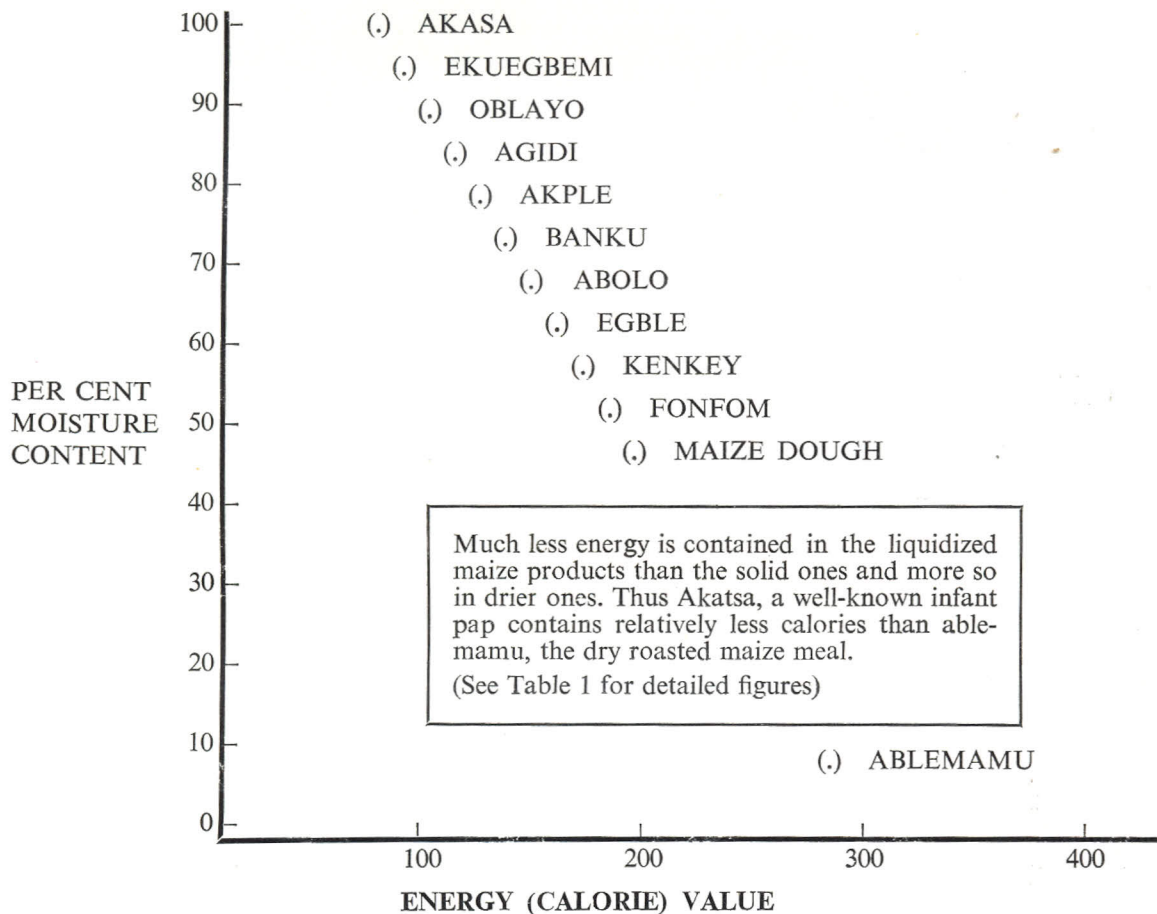


* Involving combinations of maize with other foodstuffs.

1. To make whole maize dough, the grains are initially soaked in water for 1–2 days, then washed, drained and ground into a meal. Traditionally, the milling was done by pounding the grain in a mortar followed by winnowing and sieving and then grinding on a stone. Nowadays, a diesel oil operated mill (and in some areas) electric mills are used.
2. Refined maize dough is made by initially washing the grains and removing the pericarp. Originally, this was done by pounding the maize in a mortar, but now a special type of mill is used for the dehusking process. The split grains are then washed thoroughly to remove the chaff and after draining, it is ground into a meal to make a rather whiter product which is preferred for certain foods.
3. These processes involve the simple grinding of dry maize (raw or roasted) into a meal. In the unroasted form the meal may be further sifted to remove the chaff, although this is often not necessary if the meal is finely ground.

TABLE 3

RELATIONSHIP BETWEEN PER CENT MOISTURE CONTENT OF MAIZE FOODS AND THE TOTAL ENERGY (CALORIE) CONTENT



MAIZE FOOD PRODUCTS

This section will now deal with the many varieties of foods obtained from maize. It will be concerned basically with the primary products—whole maize dough, refined maize dough, roasted maize meal, dry maize meal and dry whole grain and their final products, taking into consideration any other sub-classifications which may help to throw further light on the scheme.

Whole Maize Dough Products

Known in various Ghanaian languages as *Amo* (Ewe), *Ma* (Ga) and *Mbore* (Akan), maize dough (Table I) forms the basis of the vast majority of foods derived from maize. To prepare it, dry maize is usually soaked in water for about 24 hours. When the grains have moistened sufficiently, the water in which they are soaked is drained off and the maize is ground into a meal. The resulting meal is sifted further to remove much of the chaff, but often this is not necessary. Water is added to the meal and mixed into a dough, which is then left to ferment for at least one day before use. Among the foods prepared from whole maize meal dough are the following:

SOLID OR CAKY PRODUCTS-COMPACT TYPE

1. *Ga Kenkey*: *Komi* (Ga) or *Nkran Dokono* (Akan).

Dry maize is soaked for one to two days, then washed, drained and ground into a meal. The meal is mixed with water and made into a dough which is then left to ferment for two to three days. Half of the fermented dough is mixed with water adding salt, and cooked into a thick porridge known in local languages as *Ohu* (Akan) *Aflata* (Ga) or *Dzogbo* (Ewe).^{*} The porridge is then mixed with the remaining half uncooked dough. The mixture is formed into balls, wrapped in corn sheath and boiled in water till cooked.

^{*} A preparation consisting in part of cooked maize dough, and part of the uncooked variety. *Aflata* (Ga) or *Dzogbo* (Ewe) is essentially a thick porridge made by mixing one part of maize dough with 2 or 3 parts of water and boiled, stirring till cooked.



Wrapping Kenkey for steaming.

Kenkey is served with soup or stew for main meals and usually with fried or grilled fish, tinned fish, or corned beef, accompanied with freshly-ground pepper, tomatoes, onions and salt, for breakfast or supper.

2. *Fanti Kenkey*: *Dokono* (Akan) or *Fante Komi* (Ga)

This variety of kenkey is made using the same type of dough as in 1. The main differences are in the proportion of dough used in making the aflata, the type of leaves in which the product is wrapped and the practice of not adding salt to the product as well as steam-cooking instead of boiling. Furthermore, in Fanti kenkey, the aflata is made using one-third of the fermented dough. This is mixed with the remaining uncooked dough. The mixture is formed into oblong shapes and wrapped in plantain (*Musa paradisiaca*) leaves and steamed. For relish, see under Ga kenkey.

SNACKS

3. *Atififi* (Ewe)

One-half of freshly-made meal is cooked into Aflata (1) and mixed with the remaining meal. Sugar and salt are added, and the mixture is rolled into thin strips, deep-fried and eaten as a snack.

4. *Bamfo Bisi* (Akan) *Akpiti* (Ga) or *Amo Kaklo* (Ewe)

A mixture is made as above, but a little softer. Sugar and salt are added, and the product is left to ferment for about six hours, and formed into balls, deep-fried and served as snack or as an accompaniment to Akatsa (No. 25).

LOOSE TYPE

5. *Amo Yakayake* (Ewe) or *Kpokpoi* (Ga)

Maize dough is left to ferment overnight (or for 10–12 hours), and pressed through a large size mesh and steamed in small quantities at a time. The cooked product is mashed, and boiled ground okro is added to it. It is served as an occasional dish with okro soup.

In making *Kpokpoi*, a traditional festive dish of the Ga people, the meal is not made into dough, but is dampened lightly with water and cemented on top with very wet dough. It is then left to ferment for about the same period and then steamed to doneness. The cooked product is mashed and red palm oil is added to it. *Kpokpoi* is served with palm soup as part of the Ga Homowo Festival.

SEMI-SOLID PRODUCTS-STIFF VARIETY

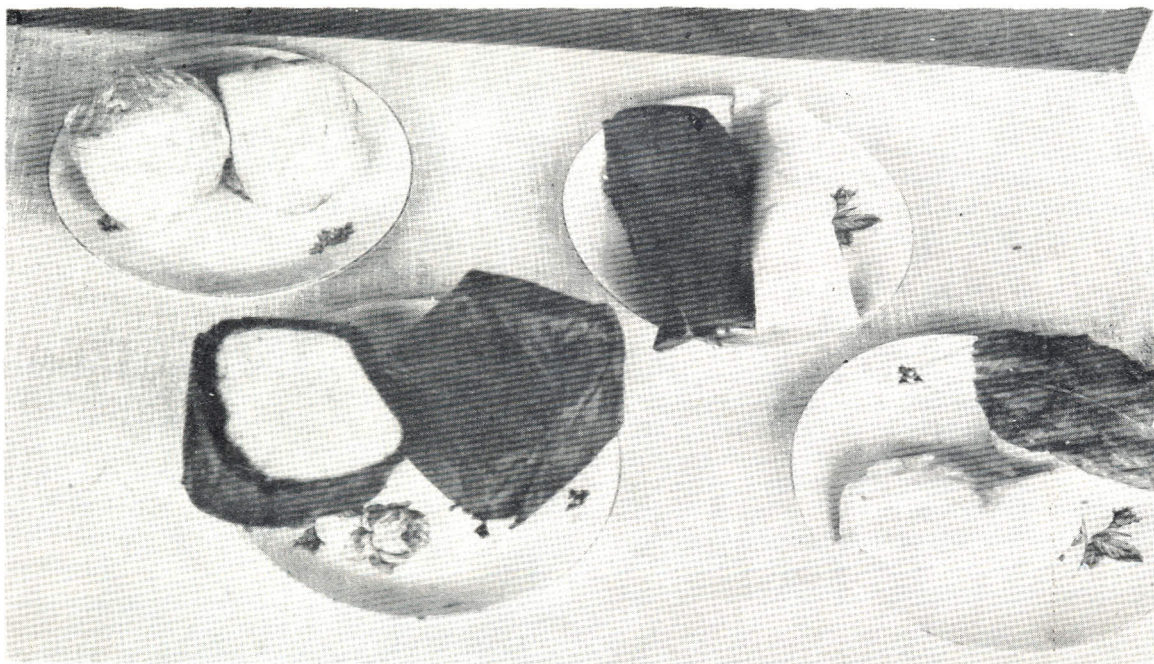
6. *Banku* (Ga) *Etsew* or *Banku* (Akan)

A mass of dough is mixed with water and stirred till it is cooked to a semi-solid consistency. This is then moulded into balls.

SOFT VARIETY

7. *Akple* (Ewe)

Commonly among the Ewes, grated cassava dough is combined with the maize dough in the ratio of 1:2 and cooked to make a semi-solid porridge which is served with a variety of soups, but especially with okro soup.



Samples of maize foods. Left: *Kenkey*—Ga and Fanti types. Right: *Agidi* and *Abolo*.

LIQUIDIZED MAIZE PRODUCTS

THE PORRIDGES

8. *Koklui* (Ewe)

A breakfast dish made with a piece of maize dough, hand-rubbed through a large mesh-sieve thus forming it into little lumps. These are then sprinkled into boiling water and stirred continuously until cooked to a thick product. It is served with roasted groundnuts.

THE GRUELS

9. *Kpokponsu* (Ga) *Amodzogboe* (Ewe) *Pomponsu* or *Mpampa* (Akan)

Maize dough is mixed with water. The mixture may or may not be strained, but eventually cooked into a slightly thicker breakfast gruel. It is commonly served to nursing mothers and it is claimed to increase breast milk.

COMBINATION OF WHOLE MAIZE DOUGH WITH OTHER FOODSTUFFS

SOLID (CAKY) TYPE

10. *Ablongo* (Ga) *Abongo* (Ewe) or *Bodongo* (Akan)

Dry maize is washed and ground into a meal and sifted. One-third of the meal is cooked into Aflata or Dzogbo (1) and mixed with the uncooked meal. The mixture is then left to ferment for about four to six hours. Sugar or ground sweet potato, salt and palm-oil are added, then baked in small quantities, usually in leaves or in tins and served as an afternoon snack.

11. *Kokoo Dokono* (Twi)

The meal is made as above. Very ripe pounded plantain is added instead of sugar or sweet potato. Addition of palm-oil (Dzomi) is optional. The mixture is wrapped in green plantain leaves and steamed or baked.

12. *Akakla* (Ewe)

The meal is made as in 11. Sugar is added (or in certain areas, pounded ripe plantain) and the mixture is baked in leaves.

13. *Ofam* or *Tamu* (Akan)

Maize dough which has been fermented for six hours is mixed with pounded ripe plantain

in the ratio 1:3. Ground onions, ginger, salt, pepper, a little wheat flour and red palm-oil are added. The mixture is allowed to stand for two hours and is baked or steamed in tins or on leaves. It is served with roasted groundnuts as a snack. Sometimes, the roasted groundnuts are added to the mixture before baking. Boiled egg may also be added.

14. *Bladzo Kaklo* (Ewe) or *More Kaklo* or *Krakro* (Akan)

A piece of maize dough which has been fermented for six to eight hours is mixed with pounded ripe plantain in the ratio of 1:3. Ground onions, salt and sometimes pepper are added. The mixture is deep-fried in spoonfuls and served as a snack.

LIQUIDIZED COMBINATION VARIETIES

15. *Kokompampa* (Twi)

Maize dough is mixed with the liquid in which ripe plantain has been boiled (see Brode Mpapa, 27). Salt, a little pepper and onions are added and the mixture is boiled until cooked into a pap or gruel. Roasted corn meal may be used instead of maize dough. It is usually served to invalids.

16. *Totodzogbe* (Ewe), *Abrobe Mpampa* (Akan)

A piece of maize dough is mixed with fresh pineapple juice and boiled into a breakfast gruel or pap. This product is commonly served during fevers. Other varieties are (a) *Akutu Mpampa* (Akan) in which fresh orange juice is used instead of pineapple juice. (b) *Kokosi Mpampa* (Akan) in which coconut milk is used. Dry coconut is grated, mixed with water and strained. A piece of maize dough is mixed with the liquid and cooked.

17. *Lakiri* (Hausa)

Dry maize is soaked for a day and ground into a meal. The meal is sifted and steamed, then dried and pounded, sometimes with an addition of groundnut paste. Salt and pepper are added and the mixture is further dried for storage. For serving, a quantity is mixed with a large volume of milk, and is sweetened with sugar.

B. REFINED MAIZE DOUGH PRODUCTS

The following are the methods of making the refined dough which is the basis of the products in this section:



Steaming Abolo

Method I

The dry maize is washed and the pericarp is removed. This was formerly done by pounding the maize in a mortar. Nowadays a special type of mill is used in dehusking the grains. After this process, the grains are washed thoroughly to remove all chaff, and after draining, it is ground into a meal and used in this form or made into dough.

Method II

The whole maize dough or meal is refined by mixing it with a quantity of water and straining using a fine sieve or muslin. The resulting paste is allowed to ferment at least for six to eight hours prior to use.

Method III

Dry or wet whole meal is sifted to remove the bran prior to use or before making it into dough.

SOLID (CAKY) PRODUCTS

18. *Polished Kenkey: Akporhe or Nsihu* (Akan)

A compact variety of caky maize dough product. The dough is prepared as in Method I. One-third of the dough is cooked into *Aflata* (1) and mixed with the uncooked dough. The mixture is then left to ferment for four to six hours.

In *Nsihu*, no salt is added to the dough. The mixture is formed into oblong shapes and steamed in plantain leaves. Among the Akans, sugar or ground sweet potato is sometimes added to the mixture.

In *Akporhe*, the dough is salted, and wrapped in corn sheaths, with part of the dough exposed at the top, and steamed.

19. *Abolo* (Ewe), *Bodoo* or *Abodoo* (Akan)

Dry or wet maize meal is sifted using a medium mesh sieve (Method III). One-third of the meal is mixed with water and cooked as *Dzogbo* (1). This is then mixed with the remaining uncooked meal. Salt, a little yeast, and baking power and wheat flour are added and the mixture is allowed to ferment for six to eight hours. If yeast or baking powder is omitted, the mixture takes 12 hours to ferment.

The mixture is then spooned onto leaves and steamed, or baked*. (See picture on left).

20. *Abolo* (Ewe—Cotonou type)

This type of *Abolo*, originating from Cotonou, Dahomey is made by taking one-third portion of refined maize meal (Method I), and cooking it into a thick porridge called *Dzogbo*. (See also *Aflata*, 1). The latter is then mixed with the remaining meal. Salt and a little yeast or baking powder and wheat flour are added. The mixture is left to ferment for 6-8 hours, then spooned onto leaves and steamed for about 20-30 minutes. (This type is now commonly made in Ghana).

* Normally, *Abolo* which is to be baked is made less liquid but slightly stiffer, and is less refined.

21. *Kokui* (Ewe)

Maize meal (Method I) is mixed with *Dzogbo* as in No. 20 in the ratio of 2:1 to form a fairly thick mass. The mixture is allowed to ferment for six to eight hours, and is formed into balls and wrapped in corn sheath and steamed.

22. *Fonfom* (Akan)

Refined dough (Method I) is left to ferment for a day. It is formed into balls and dropped into boiling water in which it is partly cooked. The product is then pounded in a mortar and again formed into balls and further boiled till cooked. It is pounded again and finally formed into balls for serving.

23. *Egble* (Ewe) or *Madidi* (Hausa)

Maize paste prepared as by Method II is partly cooked with some of the fermented liquid to a thick mass. The resulting product is wrapped in cassava leaves and further steamed to doneness.

SEMI-SOLID PRODUCTS

24. *Agidi* (Ga) or *Kafa* (Ewe & Hausa)

Maize meal (Method II) is mixed with large quantities of water and strained through a fine mesh-sieve or muslin. The liquidized meal is allowed to set and ferment for about 8-10 hours. The liquid is decanted and the paste cooked with some of the fermented liquid to make semi-solid mass which is allowed to cool, following which it is wrapped in leaves for serving or for sale.

Agidi is commonly served with light soup as an invalid dish. It is also mashed in water and served as a beverage,* with an addition of sugar. Among the Hausas, it is eaten with fried bean paste.

LIQUIDIZED PRODUCTS

25. *Koko* (Hausa) *Akasa* (Ga & Akan) or *Akatsa* (Ewe).

Maize meal (Method II) is mixed with a good quantity of water and strained using a fine sieve or muslin. The liquid is left to set and

* *Kenkey* (1) and *Abolo* (20) apart from being served with soup, stew or sauce for the main meal of the day, are also mashed this way — adding sugar and milk to make a mid-day drink.

to ferment for 8-10 hours. The paste is then cooked using the fermented liquid, into a fairly thin breakfast gruel or pap.

26. *Akatsakoe* (Ewe)

Part of the fermented liquid and the paste as prepared in 24 is cooked into a fairly thick porridge. Meanwhile the rest of the liquid is boiled and cooled and after the porridge has cooled sufficiently, it is spooned into the cold liquid and served with sugar, usually as a mid-day drink.

COMBINATION OF REFINED MAIZE DOUGH WITH OTHER FOODSTUFFS

27. *Olor* (Ga) or *Brode Mpampa* (Akan)

Maize dough (Method II) is mixed with some quantity of water and strained. The maize liquid is then added to boiled mashed ripe plantain. Ground pepper, onion and salt are added and the mixture is boiled stirring till cooked into porridge.

ROASTED MAIZE MEAL PRODUCTS

Dry maize is roasted, then ground into a meal known in various local languages as follows: *Ablemamu* (Ga), or *Eburowsam* (Akan), *Wototoe* (Ewe).

This meal is commonly combined with other foodstuffs. The only exceptions are semi-solid and two liquidized products as follows:

SEMI-SOLID PRODUCT

28. *Ewototoekple* (Ewe) *Abete* (Akan)

Roasted maize meal is stirred into boiling water to which salt is added and cooked into a fairly stiff porridge which is served with stew or sauce.

LIQUIDIZED PRODUCTS

29. *Dzudzuwo* (Ewe)

Boiling water is poured onto roasted maize meal to which is added sugar and salt and stirred to porridge. This is a popular food for infants, and nursing mothers.

30. *Ablemamu Akasa* (Ga), *Ewordzogboe* (Ewe) *Eburowsam Mpapa* or *Kyekyire Mpampa* (Akan)

Roasted maize meal is mixed with water and boiled to make a light pap which is usually served for breakfast.

COMBINATION OF ROASTED MAIZE GRAIN OR MEAL WITH OTHER FOOD-STUFFS

Solid (Caky) Products-Compact Type

31. *Dzowee (Ewe) or Esie (Akan)*

Roasted dry maize and roasted dry ground-nuts are mixed in a proportion of 2:3. Sugar, salt, pepper and cloves are added and the mixture is ground together. The resulting mass is formed into balls and eaten as a snack.

32. *Mamu Kaklo (Ga) or Ewo Kaklo (Ewe), Kyekyire Krakro (Akan)*

Roasted corn meal is mixed with pounded ripe plantain, adding salt. The mixture is deep-fried and served as snack.

33. *Kyekyirebetu or Otemeng (Akan)*

Roasted corn meal is mixed with boiled or grilled mashed ripe plantain. Ground pepper, onions, salt and red palm-oil (Dzomi) are added. The mixture is formed into balls and grilled.

34. *Kyekyire Brofre (Akan)*

Roasted corn meal is mixed with ripe pawpaw. Sugar may be added. It is served as a snack. In another variety very ripe plantain is used.

LOOSE TYPE

35. *Fiedzowee (Ewe), Esie (Akan)*

Roasted dry maize and roasted tiger-nuts and sugar are ground together and served in the powdery form as a snack.

SEMI-SOLID PRODUCTS (STIFF VARIETY)

36. *Ayikple (Ewe) or Asebetu (Akan)*

Roasted corn meal is stirred into cooked cowpeas to which have been added ground smoked shrimps, onions, tomatoes, cooking oil and salt. The mixture is cooked into a thick mass and served with fried fish or meat sauce.

37. *Dzemkple (Ewe)*

Roasted maize meal is stirred into meat stock to which have been added salt, ground tomato, pepper, onions, smoked shrimps and dzomi (a high grade traditional palm-oil). The mixture is cooked into a thick mass and served with meat sauce.

Generally any type of meat can be used, but chicken is popularly used. Crabs are also used. The dish is served on special and festive occasions.

38. *Aprapransa (Akan) or Akplidzii (Ga)*

Roasted corn meal is stirred into boiling red palm fruit emulsion in which cow-peas are cooked. Ground tomatoes, onion, dry herrings and salt are added and the mixture is cooked to a thick mass. This dish is served on special and festive occasions.

LIQUIDIZED PRODUCTS (BEVERAGES)

39. *Wotadi (Ewe)*

Roasted dry maize is ground with dry pepper and ginger to which sugar has been added. This product is served as a beverage and is believed to promote the healing of stomach ulcers.

40. *Bladzodidiwo (Ewe)*

Roasted maize meal is mixed with very ripe plantain and pounded together, with pepper. The mixture is dried and stored. It is mixed with water and served as a beverage usually in cold weather.

UNROASTED MAIZE MEAL PRODUCTS

Dry maize is ground directly into a fine powder or meal. The product then serves as a basis for one important staple food in this class:

41. *Wokple (Ewe) or Tuo Zaafi (Hausa)*

Dry (unroasted) maize meal is stirred into boiling water to make a thick porridge. Cassava flour is sometimes combined with the corn meal in a proportion of 1:2. The product is served with soups and sauces of all varieties.

Wokple can be made more delicious by stirring the meal into boiling water to which are added ground smoked shrimps, tomatoes, onion, salt and cooking oil. Tuo Zaafi, the Hausa variety is widely eaten in northern Ghana, where it is usually served with thick okro soup.

SPECIAL PRODUCTS

Here the maize is not ground as in the preceding sections, but utilized either in the intact form as whole grain maize, or in split form as

maize grit, or in sprouted form for the making of beverages. Below are the main products occurring in this class:

GRIT MAIZE

42. *Ekuegbeemi (Ga)*

Dry maize is dehusked and washed. The resulting grit is soaked overnight and boiled until soft. The product is thickened lightly with maize paste to make breakfast porridge.

43. *Eburow Mo (Akan)*

Dehusked dry maize is washed thoroughly to remove all the chaff and soaked overnight. It is cooked and served with stew.

WHOLE MAIZE

Dry maize is dehusked, washed and soaked overnight, then washed again and drained. Sugar and salt are added. The product is wrapped in corn sheath or plantain leaves and tied securely at the ends. It is boiled till cooked and served with roasted groundnuts. Sometimes, the groundnuts are added to the maize and cooked together. Either way, **Nkyekyerewa** comes out as a caky product which is served as a snack.

45. *Oblayo (Ga)*

Dry maize is dehusked whole and soaked overnight. It is boiled until soft and thickened lightly with maize paste and served as breakfast porridge.

46. *Aboda (Ewe)*

Dry maize grains are soaked. (The grains may or may not be de-branned). They are boiled till soft and until much of the liquid has evaporated. Salt is added and it is served with roasted groundnuts or dry coconut.

Note: Fresh maize may be used either on the cob or in grains in which case no soaking is required.

47. *Zoklale (Ewe)*

Dry maize is roasted and softened in salted water and served with roasted groundnut or dry coconut.

COMBINATION OF MAIZE WITH OTHER FOODSTUFFS

48. *Able Ke Nkatie (Ga), Eburow Na Nkatse (Akan) or Azikpeli (Ewe)*

Dry maize is roasted and mixed with roasted groundnuts. The mixture is sprinkled with salted water and eaten as a snack.

49. *Ayibli (Ewe)*

Fresh or dry maize grains are boiled with cowpeas. Salt is added when cooked and served with dry coconut or roasted groundnuts as an afternoon snack.

Note: If dry maize is used, it is first soaked and cooked till fairly soft before adding cowpeas.

50. *Azibli (Ewe), Ashikoo (Ga)*

Fresh or dry maize grains are boiled with groundnuts. Salt is added when cooked and served as an afternoon snack.

51. *Adibabli (Ewe)*

Dry or fresh maize is boiled till soft, and when much of the liquid has evaporated, ripe pawpaw (**Carica papaya**) is mashed and added to it, and is salted to taste.

FERMENTED MAIZE BEVERAGES

Products under this sub-section are all prepared by methods requiring an initial sprouting of the grains:

52. *Aliha (Ewe) Nmedaa (Ga) or Ahei (Akan)*

The grains are wetted, covered and left to germinate taking about three days. When they are sufficiently sprouted, they are spread out to dry thoroughly in the sun taking 3—4 days. Following this, they are ground coarsely, and mixed with water and boiled for 5—6 hours or until the mass has become brownish in colour. Meanwhile, the liquid is allowed to set and later strained. Caramelized sugar* is added to give the resulting beverage a rich brown colour. It is served usually iced after adding sugar.

53. *Ahliho (Ewe) Yolo (Ga) or Tuie (Akan)*

A product of the above (52). It is made up of the thicker part of the beverage left after straining, and made up mostly of maize bran. It is usually drunk hot in the morning.

* The addition of caramelized sugar is optional, and is mostly done among the Ewes. Also salt is added to the Ga version, though not to the others.

OTHER CEREALS

In the savannah areas of northern Ghana, maize is replaced by guinea corn (sorghum) and millet as staple foods. Unlike maize, these cereals are used in preparing only a limited variety of foods.

Guinea corn is commonly ground whole in the dry form into a meal and used in preparing a thick porridge known as Tuo Zaafi (41). It is also sprouted and brewed into a popular drink called **Pito**.

54. *Fura* (Hausa)

The commonest foods prepared from millet are **Fura** and **Maasa**. **Fura** is made by first soaking the millet overnight before grinding it into a meal. The meal is sifted and mixed with water to make a dough. This is shaped into balls and steamed till cooked. The product is next pounded lightly in a mortar adding pepper and cloves. The mixture is again formed into balls and rolled in rice or wheat flour to prevent sticking. **Fura** is served as a beverage by mashing it into fresh milk, adding sugar.

55. *Maasa*

In making **maasa**, the millet grains are washed and pounded to loosen the husks. Water is added and the husks are removed. The grains are drained before grinding into a meal. One half of the meal is boiled into a thin porridge using the liquid that has been strained from the grains. The cooked porridge is added to the uncooked half of the meal and mixed, adding more liquid when necessary to make a batter which is left to ferment for about six hours. Salt, and sometimes pepper are added and the mixture is pan-fried in spoonfuls in traditionally-made individual earthenware pans.

COMBINATION WITH OTHER FOODS

56. *Besi*

Both millet and guinea corn are combined with groundnuts and cowpeas to make other

dishes such as **Besi**. This is a mixture of roasted millet or guinea corn and roasted groundnuts and pepper ground together. It is taken as beverage by adding water and sugar.

57. *Bensaab*

Another product in this class—**Bensaab** is made by adding millet or guinea corn flour to boiled cowpeas which is then cooked into a semi-solid mass and served with stew or sauce.

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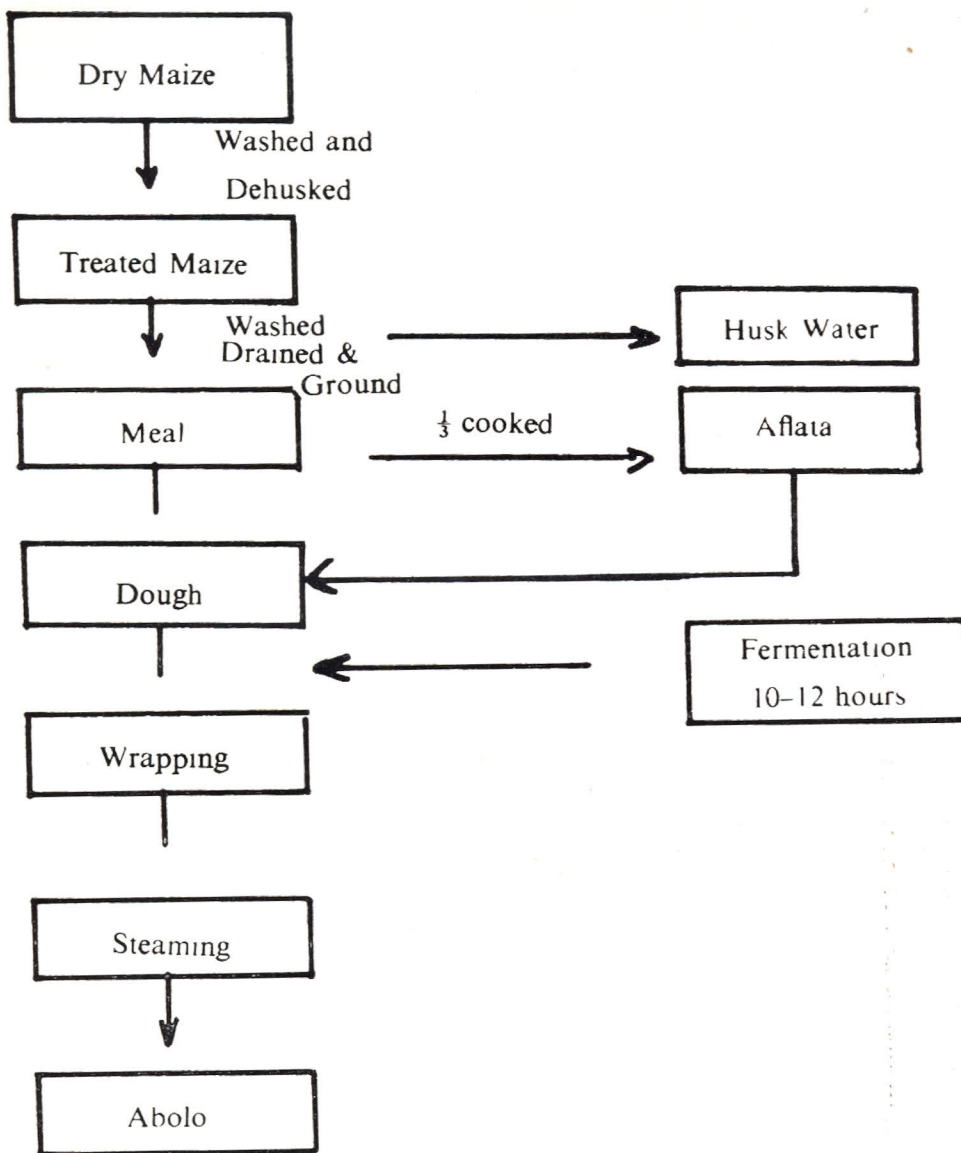
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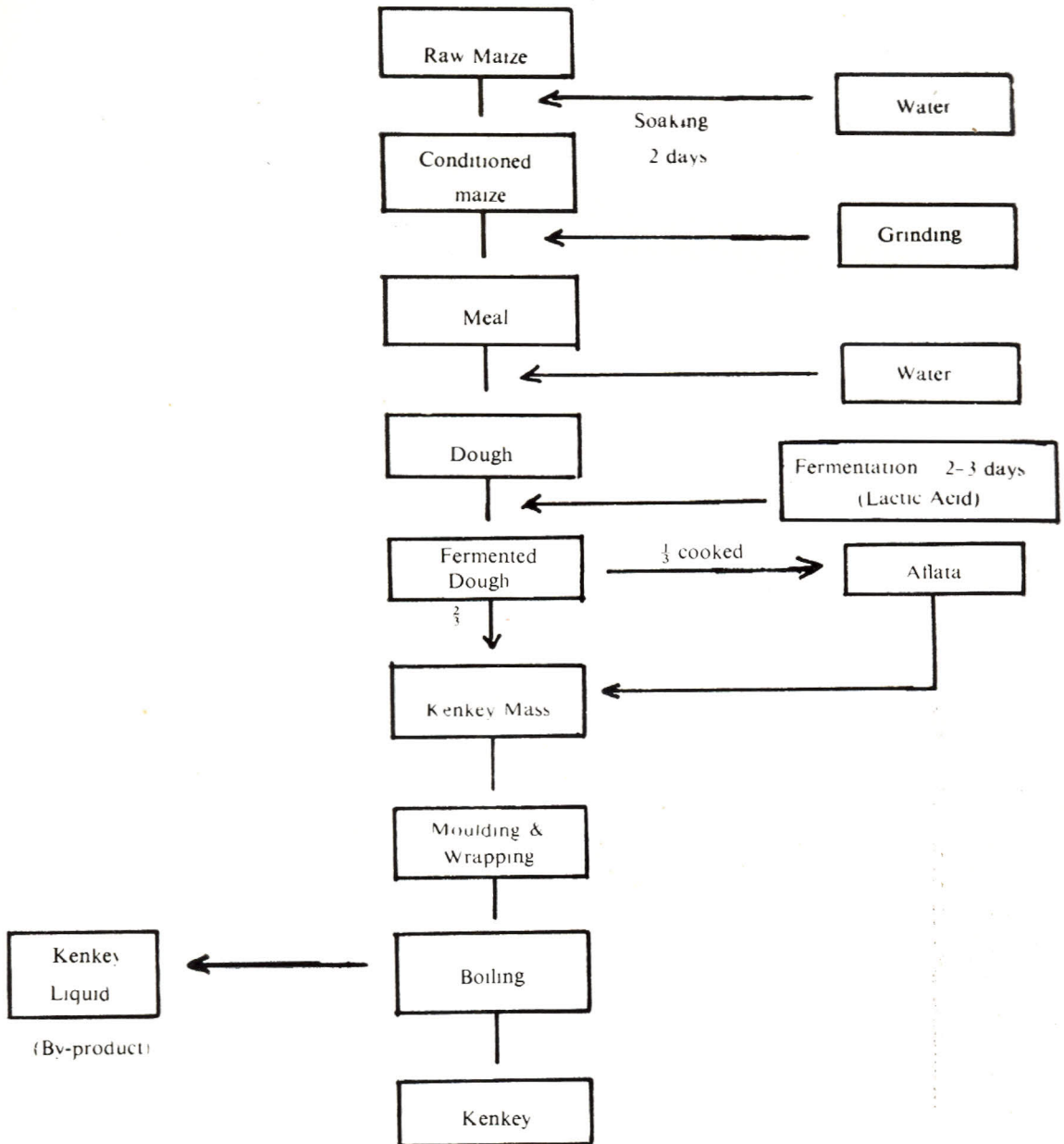
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STAGES IN MAKING ABOLO



APPENDIX II

STAGES IN KENKEY MAKING



STAGES IN THE PREPARATION OF ALIHA

(Maize Drink)

