QUALITY OBJECTIVES for packaged BAMISA FLOUR

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The quality objectives act as a guide for the **Artisanal Production Units** (APU) and the **Community Manufacturing Groups** (CMG) in order for the **packaging - labelling,** the **bacteriological quality** of the flour, the **chemical quality** of the flour, the **efficiency of the malt** to meet with the required characteristics which define BAMiSA Flour.

These characteristics are summed up in Documents 03b « **Characteristics of BAMiSA Flour**» and 04b « **Characteristics of the malt for the porridge** ».

Respecting these manufacturing and hygiene processes, as described in Documents 03a 2 « BAMiSA flour Manufacturing » and 04a 2 « Making the malt for the porridge », enables to reach these goals.

To know whether these goals are reached, the producers of BAMiSA flour who have signed the « BAMiSA Project Charter » (Document 01d) ask the APPB to achieve a **free expertise**. This expertise enables to evaluate the global quality of packaged BAMiSA flour according to the criteria of Document 03f « Expertise de la farine BAMiSA et du malt ».

The expertise of the packaging and the efficiency of the malt is achieved by the APPB. The bacteriological and chemical expertise is achieved by an accredited analysis laboratory(1). It is advised to have these analyses achieved in laboratories in the country of origin as well.

The first part of this document deals with the objectives as are supervised by the expertise. Other complementary observations are noted during the expertise.

The second part deals with other topics concerning the quality of the flour, independent from the expertise.

Part One

Quality Objectives as supervised by Expertise Criteriae.

1. Quality Objectives of packaging and labelling

1.1. The quality of packaging must allow the flour to keep its entire chemical and bacteriological qualities while remaining dry and safe from extraneous matter. Packaging must therefore be air-tight and resistant.

Packaging must also bear the necessary information for the users, in conformity with the recommendations of the Codex Alimentarius (2).

The APPB gives the Artisanal Production Units (APU) the possibility to get standardized BAMiSA® bags made of Polyethylene (PEHD), thick (60µ) and heat-sealable, printed in green, which respond to these objectives. Document 03h « BAMiSA flour, Packaging and Labelling » give all the necessary information about this issue.

On the packaging is a special space reserved for the labelling which must be filled by the manufacturer of the flour. This information can be either manuscript of inscribed on a label which is glued or stapled at the top of the bag.

The small bag of malt inserted in the compartment at the top of the bag is also part of the packaging.

1.2. During the expertise, 5 criteria are examined :

- The use of the standardized BAMiSA® bags.
- The air-tightness of the welded seals: the bags must be perfectly closed.
- The actual weight of the flour, without the malt: it must be equal or slightly superior to 500 grams.
- The weight of the malt: It must be of minimum 8 grams, i.e. the sufficient quantity for the liquefaction of 8 porridges.
- The package must mention the identity of the producer, the place and date of the manufacturing.

The 5 criteria which supervise the packaging and the labelling

The packaging of the BAMISA flour is considered to be compliant if the 5 criteriae meet these requirements.

1.3. Optimization of the packaging.

The air-tightness of the welded seal is of capital importance to ensure the preservation of the flour from the date of production inscribed on the bag and up to 6 months. When there is no contact with air, the fatty elements oxidize very little (become rancid to a very small extent).

Respect of the announced weight of the flour (500g) and of the malt (≥8g) imply a regular checking of the scales.

2. Bacteriological quality objectives

The flours which are to be "cooked", "*dehydrated products which require heating before consumption*", according the CODEX terminology, are not free from germs. These flours are not sterilized while they are packaged and the "*standards of germ-levels apply on the dry product*".

According to the various legislations, the acceptability of the germs sought and their number may vary. The APPB proposes simple and efficient quality objectives, defined by the CODEX [(3)], the French legislation [(4)] and the standards of African laboratories having already proceeded to BAMiSA Flour analyses [(5)]. The selection of the germs and the level of criteria have been defined in coordination with the Laboratoire Départemental de Seine Maritime in France (LDA76) [(1)] which performs the majority of the BAMiSA flour analyses.

If the bacteriological quality of the flours that are to be cooked is insufficient, they can be consumed as porridges if they are cooked during several minutes.

One must remember that a child eats porridge and not flour. When in the container in which it is cooked, the porridge can be considered as de-contaminated, and even sterilized. But as soon as it is poured out of its cooking container, it is rapidly colonized by surrounding germs.

2.1 The results given by the ''Laboratoire Départemental de Seine Maritime'' are as follows:

Method	Parameter (Germ)	Criterion Maximum count to attain a satisfactory quality
NF EN ISO 4833-1	Aerobic mesophilia at 30°C/g	200 000 / g
NF EN ISO 21528-2	entérobacteriaceace at 37°C/g	1 000 / g
NF EN ISO 6579-1	Search for salmonella/25g	Absence / 25g
NF EN ISO 6888-2	coagulase+ staphylococci at 37°C/g	10 / g
NF V08-059	Mold at 25°C/g	1 000 / g

Scale of bacteriolgical quality of the BAMiSA flour.

- The mesophilic aerobic flora at 30°C represents all aerobic germs found in a food. **The criterion is less than 200 000 germs per gram** (≤.20^5).

This parameter is called, by some laboratories, "microorganisms at 30°C".

For CODEX, the criterion for "mesophilic aerobic bacteria" is $\leq 10^5$.

For the French legislation, the "aerobic mesophilic germs must be lower than 200 000/g, criterion retained by the APPB

- Salmonella are particular enterobacteriaceace, some of which are highly pathogenic.

No Salmonella should be detected in 25 grams of flour (see Salmonella in Document 01h "Bamisa Glossary").

In compliance with CODEX, the absence of Salmonella in 25 g is required by all laboratories.

- Enterobacteriaceae at 37°C include Escherichiae including Escherichia Coli, Klebsielleae, Proteus, Yersiniae, Salmonelleae. These are the "fecal germs" present in the digestive tracts of animals and humans. **The criterion is less than 1 000 germs per gram (criterion $\leq 10^3$).**

For CODEX the "coliforms" must be $\leq 10^2$. Some laboratories count "Coliforms at 37° " (criterion $\leq 10^2$) and/or "Heat tolerant coliforms" (criterion $\leq 10^2$) and/or "Total coliforms" (criterion $\leq 10^2$).

For the French legislation the Coliforms must be lower than 1 000 /g and the Escherichia coli lower than 10 /g.

- Staphylococcus coagulase + at 37° (Staphylococcus aureus or golden) are germs that can be found on the skin and in the nose. **The criterion is less than 10 germs per gram.**

For some laboratories, the criterion for "coagulase positive Staphylococcus aureus" is $\leq 10^2$. There is no known CODEX criterion for staphylococci.

For the French legislation, the "potentially dangerous Staphylococci" must be lower than 10/g.

- Molds at 25°C (fungal flora) are counted because some of them secrete toxins. Yeasts are not counted because they do not have pathogenic properties. **The criterion is less than 1 000 germs per gram.**

Some laboratories enumerate all yeasts and molds with a "Yeast-Mold" criterion $\leq 10^4$. There is no known CODEX criterion for molds.

For the French legislation the "Yeast plus mold" must be less than 1000 /g and "Mold alone" less than 300 /g.

NB. The enumeration of sulphite-reducing anaerobic germs is not a criterion retained for BAMiSA flour, since the research of these germs concerns the surveillance of foodstuffs of animal origin. Flours with added milk powder are subject to this criterion.

2.2 In order to guide the producers of the flour and to encourage them to improve their will to respect the hygienic measures that are to be taken, the APPB proposes to qualify the flour according to a “scale of bacteriological quality”. This scale classifies each germ, according to its count: between “+2, satisfactory quality” and the various degrees of unsatisfactory quality from “+1 to -3”. The global quality of the flour is determined by the germ the count of which is the worst.

Germs	count inferior to : **C**	count up to **C x 3**	count up to **C x 10**	count up to **C x 100**	count up toà **C x1000**	count over **C x 1000**
Aerobic Bacteria, 30°	< 200 000 / g	600 000	2 000 000	20 000 000	200 000 000	
Enterobacteriaceacea *	< 1000 / g	3 000	10 000	100 000	1 000 000	
Staph. Coag +	< 10 / g	30	100	1 000	10 000	
Mold	< 1000 / g	3 000	10 000	100 000	1 000 000	
Salmonella	Non detected/ 25 g	- - - - - - - - -	- - - - - - - - -	- - - - - - - - -	- - -	- Detected
Bacteriological Quality	+2 satisfactory	*+1 Insufficient*	*0 Insufficient*	*-1 Unsatisfactory*	*-2 Unsatisfactory*	*-3 Unsatisfactory*

* among which Escherichia, Shigella, Klebsiella, Salmonella

Scale of bacteriological quality of the flours according to Criterion **C**.

2.3. Optimization of the bacteriological results.

If the count of some of the bacteria is over the criteria-limits, the reasons for contamination must be determined for correction. The respect of the measures of cleanliness and hygiene of the manufacturing premises and stakeholders, as is explained in Document 03c « BAMiSA Flour - Manufacturing in Artisanal Production Units (APU) », paragraph C, enables to correct procedures.

It is to be remembered that the grain coming out of the grill has been 'sterilized' by the heat. The manufacturing processes that follow the roasting and which lead to the final air-tight packaging must therefore be particularly 'clean' and be achieved by people who are well-trained to hygiene essentials, without any waste of time. The bacteria found in the bacteriological analysis thus come from contamination occurring after the exit of the grill.

According to the germ which is over the limits, the fault in the process must be found :

• An excess in Aerobic Germs shows that there is a general deficiency in hygiene and a lack of cleanliness in the premises and equipment.

The careful and frequent washing of hands is indispensable (the wearing of masks and gloves can be useful in the terminal phase).

Equipment must be well-maintained, particularly that which is used after roasting: mill, sieves, bowls and basins...

Wind and dust may be contaminating. The use of window screens on doors and windows may be necessary.

• An excess of Enterobacteriaceace is proof of fecal contaminations, human or animal, most often due to animal droppings. The proximity of animals (insects, flies, rodents, lizards, poultry, birds, bats,…) must absolutely be avoided.

• An excess of Staphylococcus shows that contamination may have happened during manipulation by hand, especially if they are bruised and that the bruises might carry infection. The temporary eviction of the person during the “clean phases” is necessary. Wearing a mask may prevent contact between fingers and nose (the latter being perhaps a carrier of the staphylococcus).

• An excess of Mold gives the evidence that the ingredients have been contaminated after sterilization by roasting. Molds which develop inside an unclean mill (or in which is ground damp grain) are a frequent source of contamination. Regular cleaning of the mill is therefore an essential step.

In case any doubt arises concerning the cleanliness of the mill, it is recommended to cleanse it by flowing some grilled grain through it, thus entraining impurities, before grinding the BAMiSA mixture. The sieves used for the final sieving must also be perfectly clean and dry.

• The detection of Salmonellae is evidence of the same causes as of the excess of enterobacteriaceae. (See note concerning Salmonella in Document 01h « Lexique BAMiSA »).

3. Chemical Quality Objectives of BAMiSA flour

The quality objectives of the chemical components of the BAMiSA flour take into account the requirements of the Codex Alimentarius [6] [7] and define a flour having a high level of protein with high chemistry index (in particular lysine-rich) and having high fat content.

With the association of a cereal with two fatty legumes, it is possible to obtain excellent chemical quality. The cereal and the two fatty legumes are chosen because of their nutritional value and their local availability.

3.1. The ingredients that are chosen are pearl millet, soy and peanut, for their remarkable nutritional qualities. We are therefore dealing with blended flour, totally plant-based, bearing a high proportion of fatty legumes. For the sake of autonomy, reproducibility and compatibility with nutritional education, all of the ingredients come from local agricultural resources, without any industrial additives such as amylases, micronutrients, flavouring.

Pearl millet (Pennisetum glaucum), also called babala, bajra, cumbu, dukhn, gero, sajje, sanio and souna, come as the favorite local cereal because of its protein qualities, taste and also because of the weak thickening quality of its starch.
NB. If no millet is available, corn (maize) or sorghum may substitute for it.

Soy (glycine max) presents exceptional nutritional qualities because of its high content of lipid and protein (lysine) and its good digestibility once roasted.

Peanut also is also very rich in protein and lipid. It is also appreciated for its gustatory quality

Arguments having oriented the choice of ingredients.

The formula defining the proportions of the ingredients for Bamisa flour is the number « **621** »: 6 parts in cereal, 2 parts in soy and one part in peanut. The complete formula is 60% cereal, 20% soy, 10% peanut, 9% sugar and less than 1% iodized salt.

3.2. The objectives concerning the chemical quality (nutritional value) are as follows:

• Concerning proteins, the objective is to reach **15 g/100g.**
Reaching this objective with protein grading almost reaching 80 is possible thanks to the richness in lysine present in the soy.
The high protein content of BAMiSA flour meets the standards of the CODEX : « The content in protein must be approximately 15 g per 100 g of the product, based on dry weight » [(1)].

• Concerning lipids, the objective is to reach **11 g/100g**
The high content of fat is obtained by associating two leguminous-oleaginous crops, which represent 30% of the ingredients. The fatty content thus provides 25% of the energy value of the flour. These lipids are rich in essential unsaturated fatty acid (Oméga 3 and 6)

• Concerning Carbohydrates, the objective is to be in the **63 g ± 3 g/100g** span.
Carbohydrates are present in the flour, mainly in the form of starch, added sucrose and fibers.
The cereal, millet of maize, is the main source of starch, soy and peanut do not contain much. Carbohydrate provide 60 % of the energy value of the flour.
In order not to provide carbs to the detriment of lipid and protein, the quantity of sugar (sucrose) added is limited to 9% of the ingredients. If one wishes to obtain a sweeter taste, it is possible to add sugar or honey in the porridge when consuming it.

• Concerning the moisture content, BAMiSA flour must must not exceed **5g/100g.**
A low moisture content is an important objective to reach as it guaranties a long preservation of the flour while limiting more specifically the development of molds. This low level of moisture must be maintained thanks to efficient drying and well-driven roasting as well as the airtight closure of the bags.
BAMiSA flour is thus two to three times dryer than the usual raw ingredients used in usual flour.

NB. One gram of moisture is to the detriment of one gram of lipid or protein, and therefore, to the detriment of the energy value.

• Concerning the mineral substances, the objective is of **3g/100g maximum.**
Mineral substances, measured in the form of ash, come from the minerals naturally contained in the ingredients (Calcium, Iron,.) and the added iodized NaCl.
NB. Some batches of flour which would have been fortified with the adjunction of mineral supplements (calcium in particular) could be above criterion grade without being considered negative.

• The objective for the energy value is to reach **425 kcal or 1775 Kilojoules/100g minimum**.
The energy value mainly results in the high lipid content of the flour, thanks to the soy and peanut, and the low content in moisture and ash.

3.3. The chemical expertise takes up these objectives to become criteriae. Each criterion that is reached is worth one point.

• Protein ≥ 15 g	1 point
• Lipid ≥ 11 g,	1 point
• Carbohydrates 63 ± 3 g,	1 point
• Mineral substances ≤ 3 g	1 point
• Moisture ≤ 5 g	1 point
• Energy value ≥ 425 Kcal ou ≥ 1775 Kilojoules	1 point

Criteria for the chemical quality of 100g of BAMiSA flour.

The sample is of very good quality when its total equals 6 points, good quality when = 5 points and of acceptable quality when = 4 points.

3.4. Optimization of the chemical results.

If some of the criteria are not reached, the reasons must be sought and corrected. The respect of the manufacturing procedures described in Documents 03c « production par les UPA de la farine BAMiSA » and 04c « Le malt pour la bouillie, Préparation » help reach the objectives.

Thus:

- it can be due to a deficit in Protein and Lipids or an excess in Carbohydrates. For the protein and lipids, there is no superior limit. Whereas for carbohydrates, it is an excess which must be avoided.

A mistake in proportion when mixing the roasted ingredients can occur. The ''**table of proportions**'' of Document 03c « the making of BAMiSA flour » restates this essential point.

The quality of the grain can also be questioned, either because they were harvested before full maturity (the protein and fatty contents are at best when they are harvested (well mature) ripe), or because they are of a specific variety, like peanuts which can contain more or less lipid according to variety.

NB. The cowpea ("niébé bean") is not an alternative to soy because it is less rich in protein, and more specifically in lysine, and it is very poor in fatty substance. This difference is easily detected by the chemical analysis.

- it can be due to excessive moisture.

During the damp season, roasting allow to complete a difficult drying process. Roasting and drying may take longer time.

Too long a washing or very humid grain may make the drying process a bit more difficult. (The grain which have not been well dried at harvest, which have been stored in a damp place or which have been harvested before their maturity may bear a high moisture rate: up to 15g for 100g).

The sugar should also be completely dry.

To avoid the re-humidification of the flour, after the roasting process, the various steps such as milling, sieving and airtight packaging will be achieved as quickly as possible, especially if the climate is damp.

- It can be due to an excess in mineral matter (ashes).

An excess of mineral matter may be due to the presence of dust, sand, and small stones that have not been removed by careful washing and sorting. Also beware of the wind when it is loaded with sand dust.

It may also be due to insufficient removal of the husks and teguments of the grains during winnowing and final sieving. (Silicon, one of the components of bran, is found in the ash).

Do not forget to check the condition of the sieves regularly.

Excess iodized salt may also be involved.
NB. A mineral-vitamin supplement would increase the ash content.

-It could be due to an insufficient energy value .
As this value is the result of the whole set of the other criteria, it is often due to an excess in humidity and/or a low level of fatty substance.

4 Quality objectives for the malt.

The efficiency of the malt is of capital importance in order for BAMiSA flour to meet the requirements of its criteria. This “efficiency” of the malt reflects its richness in amylases.

Dosing the amylases of malt in laboratories is financially out of reach. However, measuring the Flow Velocity (FV) of the liquefied porridge is a simple means to evaluate the efficiency of the malt. Measuring the viscosity of semi-liquid or paste-like food according to its FV is achieved on a Bostwick consistometre. The FV is express in mm/30 seconds.

4.1. The efficiency of the malt is evaluated through the measuring of the FV of two types of porridges, both of them being liquefied by 0,5g of the malt being tested :

- The malt is first tested on the porridge coming from the same BAMiSA package. This porridge is prepared according to the recipe 1 volume of flour and 2 volumes of water (more precisely: 60g of flour and 200ml of water). The consistency of this porridge is observed before and after its liquefaction.

The FV obtained after liquefaction evaluates what we call the ‘’**Power of liquefaction of the malt”**. This test enacts what happens in the pan or the child's bowl before consuming the Liquefied Concentrated Porridge (LCP).

- The malt is tested on another porridge, considered to be “standard”. This standard porridge uses Maïzéna® flour, (used for cooking, to increase the consistency of preparations using very little flour), i.e. 20g of flour for 200 ml of water. The FV obtained after liquefaction evaluates what we call the **‘’amylasic activity of the malt”**.

4.2. The APPB has established a viscosity-scale based upon the observation and measure of the FV. When achieving the flour expertise, this scale enables to evaluate the consistency of the porridge before its liquefaction and evaluate the efficiency of the malt according to the transformation provoked by the adjunction of the malt.

Consistency of the BAMiSA porridge Correspondance between observation and FV expressed in mm/30 secondes		**According to FV obtained after liquefaction, efficiency of malt qualified and marked :**
According to observation before and after liquefaction	**According to measure of FV after liquefaction**	
very compact	***No flow***	***non-existent***
Very thick	***FV < 5***	***non-existant***
thick	**FV between 5 et 29**	***Very low***
pasty	**FV between 30 et 59**	***low***
smooth	**FV between 60 et 89**	**acceptable**
flowing	**FV between 90 et 119**	**average**
fluid	**FV between 120 et 179**	**high**
liquid	**FV ≥ 180**	**Very high**

Viscosity scale

Therefore, the higher the VF is after liquefaction, the more efficient the malt is.

NB. The nature of the malt (red sorgho, millet, maize) can be communicated when the sample is given for expertise.

4.3. Optimization of malt efficiency.

Before putting the malt in bags, it is advised to test it on a porridge prepared according to the recipe: « 1 volume of flour + two volumes of water + three pinches of malt » to make sure that its **power of liquefaction** is sufficient. If liquefaction is not sufficient, it may be necessary to prepare new one while respecting the preparation procedure described in Document 04c « Preparation of the malt for porridge ».

NB. The consistency of the porridges prepared according to the recipe '1 volume of flour for 2 volumes of water, before liquefaction, is very uneven. The porridge can sometimes be very compact or very thick, or sometimes just thick. This is mainly due to the nature of the starch of the cereal used. This can also be due to the presence of malt in the cereal, for example when the cereal may have started to germinate before being harvested and dried.

The malt's liquefying capacity may appear to be insufficient on a very compact porridge, even if its amylasic activity, tested on a standard Maïzena porridge, is in fact high or very high. The change in consistency of the porridge must be taken into account in order to evaluate the efficiency of the malt. If the change in consistency is significant, this means that the malt is efficient. If, on the opposite, there is only a small difference in consistency 'before' and 'after' the action of the malt, this proves that the malt is non-efficient.

In any case, in order to obtain an optimal liquefaction, it is possible to add some malt and/or re-cook the porridge for a short time after the adjunction of the malt.

5° Other observations noted during the expertise

• Fineness of the grind. It determines the texture of the porridge. The porridge is all the more appreciated that it is fine. Cereal which are considered to be durum or flint are more difficult to grind finely. Stone mills or wheel grinders generally allow a finer grist than that obtained with hammer grinders.

• Organoleptic qualities of liquefied concentrated porridge : Taste, smell, colour, texture (fine, gross, grainy) are observed.

• The degree of roasting.

Roasting sparks off a Maillard reaction which develops pleasant flavours and darkens the colour of the grain.

The roasting must be sufficient in order to pre-cook, sterilize, dehydrate and destroy the antinutritional factors of soy.

Roasting reduces the taste and smell of soy (which are not appreciated by everyone). It gives the flour a colour varying between ivory-yellow and brownish-beige.

But roasting must not be overdone. If it is too intense, it might alter the qualities of the protein and also give a dark colour and a “burnt” smell to the flour which may be quite unpleasant.

Second Part.

Other topics concerning the quality of the flour, outside expertise.

• Labelling

The nature of the cereal used can be indicated by crossing out Millet or Maize in the ingredient chart.

• Fibres.

During the chemical analysis, fibers, non-digestible carbohydrates are counted among total sugars. The fiber rate is not measured as such, but it is usually low.

• Micronutrients.

BAMiSA flour is not a ''fortified flour'', except if a specific order is placed. However, the ingredients each provide their minerals and vitamins. Compared to that of a non-liquefied porridge, the value in nutriments of a BCL BAMiSA is three to four times higher than a flour having the same viscosity.

The quantity of micronutrients can be established according to the charts on the composition of the food. They are not dosed in laboratories.

For 100g of flour, the mineral values are calculated as follows :

Iron 10 mg, Zinc 6 mg, Copper 0,57 mg, Calcium 100 mg, Phosphorus 260 mg, Magnesium 110 mg.

For 100 Kcal, the mineral values are calculated as such:

Iron 2,35 mg, Zinc 1,4 mg, Calcium 23,53 mg, Magnesium 25,88 mg,

The iodine is provided by the iodized salt (the validity of the iodation should be verified before its incorporation, by kits of rapid tests).

The cereal provide vitamin B.

To make up for the low level of vitamin C, it is advised to add fresh fruit or tomato juice to the porridge.

The intake of vitamin A can be covered by the addition of red palm oil or other red fruit in the porridge.

NB. The adjunction of a dose of micronutrients to one of the daily porridges is achieved by some of the BAMiSA/PAM partnerships (see Document 05g « The fortification of the porridges »).

• Lysine

The dosing of lysine would be a good indicator of the protein quality of the flours, but this dosing analysis is off-budget.

• Phyto-toxins

The dosing of aflatoxins is not measured during the expertise because of the high cost of this analysis.

Aflatoxins are neither destroyed by roasting nor cooking. In order for the level of aflatoxin to be as low as possible, the Local Production Units must supply itself with good quality grain (without mold), store them in a dry place and, while preparing the grain, eliminate the maximum grain potentially contaminated by the ''aspergillus'' mold, which secretes aflatoxins.

The washing must be done until the water becomes all clear.

• Antinutritional factors.

The roasting of the ingredients destroys the anti-nutritional substances such as antitrypsins and antihemaglutinins of soy. It is not useful to search for their presence as BAMiSA is a flour the ingredients of which have been roasted.

• The bacteriology of the malt.

To be sterilized, malt cannot be treated by heat because it this would destroy the amylases. The malt must therefore be prepared with a maximum of hygiene, as described in Document 04c « The preparation of the malt for the porridge ».

Under the condition that the liquefied porridge be consumed rapidly, the small quantity of malt added to the hot porridge is little or not contaminating. If the liquefied concentrated porridge is not consumed shortly after its liquefaction, it is demanded that the porridge be briefly re-boiled.

§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§§

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prepackaged dietary or regime food.

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(4) J.O./ R.F, A.M. 01/07/1976. « Aliments diététiques de l'enfance nécessitant une cuisson avant consommation ».

(5) Laboratories having achieved analyses for BAMiSA flour:

- 'Centre de Recherche en Alimentation et Nutrition' in Cameroon, en 2018
- CECOQDA in Tchad in 2020.

(6) CODEX CAC/GL 08-1991 revision 2013.

(7) CODEX STAN 74 1981/1991 and CODEX STAN 074-1981, Rév.1-2006 « Cereal-based transformed food, destined to infants and young children ».