Consultation

Consideration by the ACNFP of Bambara Groundnut (Vigna subterranea) as a traditional food from a third country

Background

At the 152nd meeting of the Advisory Committee on Novel Foods and Processes (ACNFP) the traditional food from a third country notification dossier for Bambara Groundnut (Vigna subterranea) was considered. Bambara groundnut, also referred to as Bambara bean, is a tropical legume crop that grows underground and has many names depending on region of prevalence.
The applicant is requesting authorisation within the UK market for the product in four forms i.e., dried hulled & dehulled, roasted dehulled salted & unsalted, canned in salt water and ground to a flour with adults as the target population.
The summary of the application can be found on the ACNFP website.
The advice of the Committee to the Food Standards Agency is summarised below.
Please note the Committee did not consider any potential health benefits from consuming the food as the focus of the novel food assessment is to ensure the food is safe, not misleading and not putting consumers at a nutritional disadvantage.

The Committee’s discussion

Identity of the traditional food

Bambara is a region in Africa after which the Bambara ground nut (Vigna subterranea) is named. The geographical origin of Bambara groundnut is widespread across African countries, South-east Asia, and Brazil. The applicant states that Bambara groundnut will be sourced from various regions across Africa. The applicant also states that the forms under which the food is marketed are all

used traditionally both hulled and un- hulled. Depending on the region farmed, the hulled dried seeds come in different colours and sizes. They are roundish, are especially of cream/brown/grey/black colours with a white hilum. Genetically, Bambara groundnuts are very similar to mung beans with whom they share the same genus Vigna. The Committee had no concerns on the identity of this groundnut.

Production Process

The Committee was concerned that since this product is sourced from different small holdings in Africa, there was a degree of uncertainty as to how the risks are managed due to potentially huge variations in the product as well as the processes and quality. Also, because the product is a legume that grows underground, mycotoxins are a concern as these can be concentrated during drying as well as in the factory due to extrinsic factors. Therefore, how processes are managed to eliminate the risk of mycotoxin contamination is important. The Committee appreciated that the applicant is aware of this problem, especially in this part of the world, but wondered whether further evidence could be provided to provide better reassurance on this issue.

The Committee noted that the applicant states that the product is stored at -18°C before sale for potential insect egg inactivation. The Committee’s view was that cold storage would kill live insects but would not kill the larvae developing inside the product which could lead to further insect damage. Fungal infection could cause more mycotoxin risks.

The applicant has provided a HACCP plan. However, it was noted that there was no action described for the identified issues hence HACCP on risk management was not sufficient. The Committee also queried whether the level of production certification was to international standards.

It was also noted that the levels of lectin was much higher in Bambara groundnut than other legumes hence an evaluation of this is essential, especially following the cooking process for their removal. The Committee noticed that looking at the analysis provided in Table 8 of the notification, there is presence of saponins and alkaloids mentioned. These could potentially include dangerous substances, hence further information on what these constitute is essential. Phytochemical safety was also not well clarified.

Compositional data

The Committee commented that the compositional data as presented was complicated. There were lots of tables that were not collated very well. Preferably, the natural ranges of some of the compounds listed should reflect the products being put in the market. It was noted that the phytate levels change radically during processing and even though the applicant states the product is targeted to an adult population, how this would be achieved was questionable, hence intake data for all ages should be evaluated.

Stability

The Committee noted that the stability section was insufficient even though stability testing had been proposed. The Committee noted that since this was a traditional food that has been consumed before, there should be an indication of how long this product was stored for traditionally or some exploration possibly through literature review.

Specification

The applicant specifies Bambara groundnut in four forms: dried, roasted, canned and ground to a flour. Generic specifications of comparable legumes used within Europe were followed and especially chickpeas because they are available in all the forms proposed for Bambara groundnut. The Committee did not highlight any concerns in this area.

Nutrition

The comparison with other legumes was felt to be useful. However, the assumption that nutritional benefits from one legume would occur with another form of legume was not sufficient evidence to consider the potential for nutritional disadvantage.

Proposed conditions of use for the UK market

The Committee argued that the allergenicity evaluation provided by the applicant was not satisfactory. They noted that the UK population could be more susceptible to legume allergens in comparison to a rural African population. Also, where there is potential for allergenicity, this becomes hidden in a product such as the ground Bambara flour, which poses a bigger risk if not labelled. They noted that the name ‘groundnut’ might be misleading as this is a bean and would also

put off people with peanut allergies. Additionally, the Committee made an observation that due to this being a ‘traditional food’ application, the requirements for allergenicity data are different and also due to data gaps on cross-reactivity, it makes it difficult to assess the allergenic potential of this product.
The Committee noted that the applicant had made a comparison to other legumes such as soybeans. It was noted that just because one product has health benefits in a population within one region, it does not necessarily mean it would be the same case in another region.

10-day Consultation

The Secretariat posted the draft summary online for a 10-day consultation to allow members of the public to review the advice. The Secretariat received no comments from the public during the consultation period. Therefore, no further additional information to inform the ACNFP risk assessment was provided, and the advice remained as drafted.

Conclusion

The Committee identified several areas of concern where further information and assessment would be required to provide reassurance that Bambara groundnut could be used safely by the UK population. Several potential risks from various sections of the application needed to be explored further in order to provide reassurance that the product was adequately controlled.
The main areas of uncertainty were surrounding the potential presence of mycotoxins, data gaps on levels of saponins and alkaloids, stability of the product and also addressing the questions around allergenicity. Allergy to legumes is a known issue in the UK population and therefore potential for cross-reactivity should be addressed.