Meeting

Mung Bean Protein Committee Paper for Discussion

Committee Paper for Discussion - ACNFP/152/03

Advisory Committee For Novel Foods and Processes

Novel Food Application for Mung Bean Protein – Additional Information for Review – Application Number 32

Issue

1. The Committee has reviewed this application several times most recently considering the applicant’s response to a request for further information at the November 2021 meeting. At the last meeting further information was requested on which to base the Committee’s assessment of the novel food ingredient. Members are invited to consider the response from the applicant and whether it addresses the requests for information satisfactorily or if further information is required.

Background

2. On the 11th January 2021, the FSA (Food Standards Agency) received the submission for Mung Bean Protein (MBP) for Eat Just, Inc (JUST) by Analyse & Realize GmbH. The mung bean protein product made through extraction, purification and spray drying of protein from mung bean (Vigna radiata) flour. The MBP is intended to be used as a complement or substitute animal or vegetable proteins in a variety of conventional food and beverages. The product is intended for use in foodstuffs for the general population.

3. The Committee reviewed the mung bean dossier at a ACNFP meeting on 21st April 2021 and again on 15th September 2021, where they identified several areas requiring further information to assess the safety of the novel food and its proposed use.

4. The Committee reviewed the applicant’s response to these questions at a ACNFP meeting on 24th November 2021. They identified several areas where additional information was required to assess the safety of the novel food and its proposed use. Information was requested on the

- Production Process
- Proposed Use and Intake Levels
- Allergenicity

The FSA’s request for further information (Annex A) and the applicant’s response is included as Annex B. The most recent version of the dossier and annexes can be found Annexes C and D respectively.

Applicant’s response to request for further information

Production Process

5. The Committee requested that the applicant provide more precise details on the testing schedule for pesticide residues to support the quality assurance process. The applicant has responded by stating that previous certificates of analysis demonstrate that pesticide residues have been within permitted regulatory limits. Further, this strategy has been effective for purchasing mung beans from their suppliers around the world.

6. The applicant continues by stating that a quality programme of agreements and verifications may be considered with specific suppliers when the purchasing volume increases. This would differ from the current system of testing shipments to testing at farms and processors, and control of agricultural chemicals.

Proposed Use and Intake Levels

7. The Committee sought clarification on the intended use of the novel food given the change to the proposed categories to 12.9 under the FAIM categorisation and the expectation that the product would be used as an egg replacer. Further information was sought on how mung bean protein would be used with reference to examples of typical food products containing the novel food ingredient.

8. The applicant has responded by identifying three products that are currently on the market in North America – see Annex B. These products illustrate the

intention of use for mung bean protein as a food ingredient in the European market including the UK. They further state that similar products and additional flavours may be introduced over time.

9. The applicant states that they are not seeking approval beyond category 12.9 under the FAIM categorisation.

Allergenicity

10. The Committee were concerned by the potential for cross-reactivity given the high degree of sequence homology with known food allergens from the legume family, lupin, peanut, and soybean. The members sought information from the next tier of allergenicity assessment which is targeted serum screening – clinical studies to understand whether the protein binds to IgE produced by legume allergic consumers as an indication for the potential for allergic reactions.

11. The applicant has responded by agreeing that they believe cross-reactivity is possible and this is based on the results from a study by Jensen et al, 2008, which showed that some children with peanut allergies tested positive for mung bean allergy. The applicant indicates that they consider that this evidence addresses the queries raised by the Committee. It is based on this evidence the applicant has proposed precautionary labelling.

12. The applicant further states that they have sold over 1 million kilograms of mung bean protein and is aware of one report of sensitivity from a consumer with chickpea allergy (not medically confirmed), as well three reports from egg sensitive consumers. One of their products contains soy bean, but this carries an allergen warning. The applicant contends that mung bean protein does not need to be labelled as major allergen.

13. The applicant provides further justification on why they believe that next tier of allergenicity testing will not provide information on the threshold and magnitude of the allergenic potential of mung bean protein. They explore the evidence that mung bean protein would represent the same level of risk as the foods that are subject to the food allergy labelling requirements in the UK. They express their concerns that the next tier of allergenicity testing and positive IgE test results would be of limited value in determining whether mung bean protein should be labelled as a major allergen.

14. If further information is required, the applicant requests that the FSA provide the acceptability criteria for the design of a study that would provide the specific

information and sensitivity required.

Committee Action Required

- The Committee is asked whether the response from the applicant is sufficient to complete the risk assessment.
- If not, the Committee is asked to indicate what additional information would be required.

ACNFP Secretariat

March 2022

Annexes (Confidential)

Annex A – Request For Information
Annex B – Applicant’s Response to Request For Information
Annex C – Dossier and References
Annex D – Annexes