

Mung Bean Protein Committee Paper for Discussion

Committee Paper for Discussion - ACNFP/153/04

Advisory Committee For Novel Foods and Processes

Application for Authorisation of a Novel Food for Mung Bean Protein - Additional Information from applicant 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 March 2022 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 the ACNFP meeting on 21st April 2021. Subsequent requests for further information were reviewed at the 15th September 2021 and the 24th November 2021 meetings to address members queries relating to the proposed uses and safety of the novel food.

4. The Committee reviewed the applicant's response to these questions at a ACNFP meeting on 30th March 2022. 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 dossier and the annexes (see Annexes C and D respectively) have been included as a source of background information only.

Applicant's response to request for further information

Production Process

5. The Committee requested additional information to help understand the pesticide screening or surveillance programme used by the applicant given that the mung beans were pooled from various farms from around the world which may employ differing agricultural practices.

6. The applicant has provided an outline of the pesticide surveillance program which includes the main elements utilised for determining whether the mung beans are accepted or rejected for processing into the novel food ingredient.

Proposed Use and Intake Levels

7. The Committee sought clarification on the finished products identified by the applicant in the previous response to further information. The 'Just Egg Folded' and 'Just Egg Scramble' products are reported to contain 41% and 49% of mung bean protein per dry weight, respectively. However, the applicant also stated that these products would fall under 12.9 of the FAIM categorisation and the mung bean protein would be limited to 20% or 200 g/kg as an egg replacement.

8. The applicant has apologised for the confusion and responded by stating the content of mung bean protein in the 'Just Egg Folded' and 'Just Egg Scramble' products are 11.5% and 13% respectively, which falls within the limit of 20% identified in the dossier. They further state that this upper limit will allow the

potential for other products which may use higher contents of mung bean protein.

9. The applicant has provided a copy of the Just Egg cookbook, which is intended for the US market, to help further illustrate the uses of the novel food ingredient by those in catering or using the product at home.

Allergenicity

10. The applicant in the dossier highlighted the potential for the cross-reactivity between mung bean protein and other legumes, such as lupin, peanut, and soybean, given the high degree of sequence homology of the novel food ingredient with these known food allergens. Proposing a potential risk management measure in the form of precautionary labelling.

11. The Committee has previously requested the next tier of allergenicity information in order to characterise the risk from the cross-reactivity to legumes in allergic UK consumers. Specifically, targeted serum screening – clinical studies to understand whether the mung bean protein binds to IgE produced by legume allergic consumers (e.g., consumers with recognised allergic response to peanut allergens) as an indication for the potential for allergic reactions.

12. The applicant acknowledges that where mung bean is a major component in the diet there is a recognition that this is a food allergen. The applicant also accepts that cross-reactivity between the mung bean and other recognised food allergens, such as lupin, peanut, and soy, have been reported in the scientific literature.

13. The applicant remarks that they do not believe labelling is necessary, however, they accept that this may be an appropriate alternative to characterising the risk to consumers. The applicant has provided some example statements that could be used on the labels to inform consumers.

14. The applicant states that they understand why the FSA is requesting further information to support the risk management process for mung bean protein, but requests further clarification from the FSA in order to ensure that an appropriate testing regime is put in place.

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.

Annexes (Confidential)

Annex A – Request For Information

Annex B – Applicant’s Response to Request For Information

Annex C – Dossier and References

Annex D – Annexes