Minutes

Advisory Committee on Novel Foods and Process (ACNFP). Subcommittee on Products of Genetic Technologies (PGT). Minutes of the 4th Meeting held on the 21st of November 2022

These minutes are subject to confirmation by the Subcommittee.

Members are required to declare any personal interest in matters under discussion; where Members have a particularly close association with any item, the Chairman will limit their involvement in the discussion. In cases where an item is to be discussed in their absence, a Member may make a statement before leaving.

Minutes of the 4th meeting of the Products of Genetic Technologies (PGT) Subcommittee of the Advisory Committee on Novel Foods and Processes (ACNFP), held on 21st of November 2022, online using Microsoft Teams.

Attendance

Committee Chair

Dr Andy Greenfield

Committee Members

Professor Paul Fraser

Professor Wendy Harwood

Professor Huw Jones

Dr Ray Kemp

Dr Elizabeth Lund

Professor Clare Mills

Professor Hans Verhagen

Professor Pete Lund - Co-opted

Apologies

Professor Bruce Whitelaw

Observers (FSA)

Mr Chris Stockdale, Head Genetic Technology Policy

Mrs Alison Asquith, Senior GT Policy Advisor

Mr Hoa Chang, GT Policy Advisor

Mrs Justine Gallie, GT Policy Advisor

Mrs Louise Carey, Comms

Observers (External)

Dr Martin Cannell, Defra, ACRE Secretariat

Professor Peter Gregory, Science Council

Observers (Devolved Administration)

Mr Xose Álvarez, Policy FSA Wales

Dr Karen Pearson, Food Standards Scotland

Ms Tamara Satmarean, Food Standards Scotland

Ms Siobhan Watt, FSA Northern Ireland

Mr Ciaran Weir, FSA Northern Ireland

Secretariat

Mrs Ruth Willis, Head Regulated Products Risk Assessment; Technical Secretary ACNFP

Mr Donal Griffin, Team Leader, Regulated Products

Risk Assessment (Feed and GT)

Dr Karin Heurlier, Science Secretariat

Dr Rhys Williams, Senior Secretariat

Dr Andrew Hartley, Science Secretariat

Mr Matt Hall, Science Secretariat

Dr Annalisa Leone, Science Secretariat

Miss Victoria Balch, Administrative Secretariat

1 . Apologies and Announcements

The Chair welcomed the Members, the representatives from the FSA, the observers from the devolved administrations, external observers, and the Secretariat team. Apologies were received from Professor Bruce Whitelaw; Professor Clare Mills advised she would only be able to attend intermittently.

It was noted that all the Subcommittee's interests in relation to Precision Breeding are provided on the ACNFP website. No conflicts of interest were declared for this meeting.

2. Matters Arising

ACNFP/PGT/4/MA

- The Secretariat has been updating the listing of Members' interests on the ACNFP webpage; Members also provided specific lines to describe any interest they could have in the development of the Framework for authorisation of PBOs as food or feed.

- The Secretariat reviewed the minutes for ACNFP PGT1 and ACNFP PGT2 in light of the comments from Members over their format and their level of

detail. These will be discussed under item 3. A template of keynotes, which could be circulated after a meeting more rapidly than minutes, was developed on the request of Members and will also be reviewed under item 3.

- The Secretariat built on the discussions from the three Precision Breeding Framework Workshops of PGT3 (i.e. on potential risks identified from PBO case studies, on models of approaches to the assessment of PBOs, and on criteria to form the basis of a tiered approach to the review of PBOs) to form the basis of a workshop to be held at the ACNFP 155th plenary session. The points raised will be used to inform the two workshops on PBOs under items 4 and 5.

- Two Members volunteered to discuss assessment criteria for PBOs as a food in light of their past ACNFP experience and their knowledge of criteria used to assess different regulated products regimes. A summary of their discussion was circulated with the Subcommittee ahead of this meeting.

- The Secretariat thanked all Members for continuing to accommodate shorter than usual times for looking at papers ahead of meetings.

3. Minutes of the ACNFP/PGT1, ACNFP/PGT2 and ACNFP-PGT3 meetings

ACNFP/PGT/1/Min, ACNFP/PGT/2/Min and ACNFP/PGT/3/Min

Minutes from the first two subcommittee meetings were reviewed; minutes were agreed pending minor amendments. It was explained that the intention was for these minutes to be published at the same time as the next ACNFP statement on the criteria for a tiered approach to the assessment of Precision Bred Organisms (PBOs).

Members recommended several changes to the draft minutes of ACNFP PGT3, highlighting the potential ambiguity of some wording, and the risk for sentences to be used out of context. Minutes will be reviewed taking into account these comments before being recirculated to Members for final agreement.

Members agreed to provide comments by correspondence on whether keynotes would be a useful tool to support their preparation work.

Actions – Members to provide comments on the keynotes format

The Secretariat to circulate updated versions of the draft minutes for PGT3

The Secretariat to seek agreement of ACRE/Defra Observers on the minutes relating to their contributions

4. Precision Breeding Framework workshop

ACNFP/PGT/4/01

Session 1: Review of the conclusions reached at ACNFP 155

Building on the previous discussion of the ACNFP, this session reviewed the list of risks that may arise in PBOs, and the identified triggers that would justify further scrutiny and, if needed, assessment of PBOs for food or feed.

When considering the list of risks arising from factors of concern identified to date and as summarised in ACNFP/155/02 Annex B, Members noted that most risks arose from the outcomes of an edit (e.g. substantial increase in nutrient level) while few might arise from the methodology (e.g. cisgenesis, particularly non-site-directed insertion); efforts should be made to organise the table in a more logical way to group the case studies based on the nature of the outcomes seen. This was to allow a better link across to the triggers for a tier 2 assessment. It was noted some of the case studies represented techniques and the Secretariat was asked to consider how these were captured. Further clarification was provided on some identified risk factors and their resulting risk(s):

- In considering case studies on use of cisgenesis, it was recognised that events less commonly identified in traditional breeding were the insertion of whole (functional) genes in random locations, and that this scenario was not fully captured in the document. Subject to these being considered as PBOs by ACRE, the impact of the disrupted sequence at the insertion site as well as the inserted cisgene in the organism may alter the degree of novelty that would need to be taken into account to understand any risk.

- In considering case studies with an increase in a particular nutrient, it was commented that any increases in nutrient levels in a PBO would have to be compared against the actual range found in current varieties. For an increase (or decrease) to be considered for tier 2, it would need to be significantly outside the range of current varieties and at the same time represent a potential hazard.

- Changes in allergenicity can be anticipated either from i) purposefully altering a crop to reduce its allergenicity, in which case it would be necessary to check these claims; or ii) because the organism edited is known for its allergenic potential; or iii) as a consequence of modifications to recognised pathways with direct and indirect impacts on allergens and metabolism. In all cases the risk of elevating existing allergens would be left to the developer to monitor. It was noted that it is currently very difficult to predict the emergence of new allergens or new triggers of allergic reaction; the possibility of organisms currently not identified as being allergenic, becoming allergenic as a result of editing would result in substantial remaining risk.

The stacking of different PB events was discussed for the first time. ACRE and Defra representatives confirmed that all progeny of a PBO would automatically acquire the status of PBO, and it was assumed that the progeny of two different, confirmed PBOs would not need to receive further confirmation of PBO status. It was acknowledged that with the development of molecular biology techniques, multiple sequential edits are becoming more viable, and may be performed within elite breeding lines rather than donor lines. Members discussed whether stacking PB modifications, each previously authorised individually, could introduce new risks; this issue will be further reviewed in future workshops.

The triggers that would justify further scrutiny and, if needed, assessment of PBOs for food or feed, as summarised in ACNFP/155/02 Annex D, were discussed. Each box of the decision tree was reviewed and a number of changes proposed to the text to refine the intended scope to be captured.

More general points raised related to the roles and responsibilities in the process and whether further data may be required to inform tier assignment.

Action – The Secretariat to update the decision tree in light of detailed comments on the scope of effects to be captured in each of the boxes

for further review by the Committee.

5. Precision Breeding Framework Workshop

ACNFP/PGT/4/02

Session 2: Models to the approach of the risk assessment

Members were provided with two high-level models for assessing PBOs: an approach where the proportionality is set by comparison with TBOs and foreseen to have two Tiers (1 and 2); and a hybrid approach where the proportionality is set by comparison with other food innovations and foreseen to have Tier 2 divided into two subdivisions, one where the assessment would be light touch and one where it would be more thorough.

Members were in favour of a simplified procedure with two tiers that lack subdivisions, as more boundaries could increase the number of cases where tier attribution is difficult or contested.

To determine the minimum information that would be required to be able to screen PBOs for tier attribution, the following points were noted:

- ACRE would focus on the intended genomic change introduced by PB, and therefore would only request information on the intended use and on the genetic change(s).

- Additional minimum information could be requested on a case-by-case basis to allow screening for triggers to the assignment to Tier 2.

- The approach to Novel Foods and particularly the previous process for substantial equivalence under 258/97 EC could inform decisions on the information needed in certain cases; some examples were provided to Members.

- It was noted that suites of tests exist, that are used by companies to run analyses in batteries. These could be considered when further compositional data would be considered justified.

- A tailored approach is likely to be needed for animals.

While acknowledging that the history of use of TBOs shows very rare occurrences of safety concerns as a consequence of unintended changes, establishing that the composition of a product is not changing at the outset of PBO authorisations coming into force would provide additional reassurance. For this reason, Members discussed whether basic phenotypic information should be requested to capture unintended changes in composition. Members suggested that a greater concern was deliberate changes to nutrients that had consequences for nutritional profile more widely, potentially impacting assessment of nutritional disadvantage. Members suggested that using appropriate datasets to establish the range of outcomes currently seen in a variety would be needed to establish the baseline.

In considering how the model could operate in practice, Members considered whether FSA Risk Assessors and Managers could screen PBO applications for absence of triggers to Tier 2 allocation. It was proposed by the Secretariat, and accepted by Members that for quality assurance, ACNFP could review the first tranche of applications building on experience to allow FSA staff to make the decision to attribute PBOs to Tier 1 where a due diligence approach would be used to ensure safety, or to Tier 2 where a risk assessment would be performed.

In considering how a case-by-case assessment for tier 2 organisms could be managed, it was agreed that different triggers would prompt different levels of assessment by the ACNFP. Some may require limited data to address focused areas of review, while others may require a more thorough assessment, such as when the organism would otherwise have been a novel food.

6. Any other business

The Subcommittee agreed they should reach consensus on the triggers and approach to the assessment before reporting to the main Committee; an additional Subcommittee meeting before the end of the year and an online workshop with the main Committee in early January will be sought to meet this aim.

Advice was sought from the Members on the information that would need to be included should the references to the case studies used to support their discussions be made public.

Clarification was requested on the status of applications for Genetically Modified Organisms that appear validated; it was agreed the question would be answered by correspondence.

7. Date of next meeting

The next ACNFP-PGT meeting is scheduled for 1st February 2023 and will be held virtually on Teams; the date for an additional, virtual meeting before the 23rd of December 2022 will be explored. The next ACNFP meeting is scheduled for the 7-8th February 2023 and will be held as a hybrid meeting; the date for an additional, virtual meeting in the first weeks of January 2023 will be explored.