Consumer perceptions of precision breeding: Views on the Bill and regulatory framework

Reactions to the Genetic Technologies (precision breeding) Bill

To ensure informed discussion, participants were presented with some high-level information about the Genetic Technology (Precision Breeding) Bill, and the role of the FSA if the bill is passed.

It was explained that if the Bill does become law in England, precision bred foods would become a new category, separate from genetically modified organisms and from conventional methods of production.

It was also explained that, if this happens, the FSA will need to advise Ministers on making new regulations for the purpose of assessing precision bred food and feed before they are authorised for sale in England.

To see the full explanation of the Bill and the FSA's role, please refer to Workshop 2 materials in Appendix 3.

Positive views on the Bill:

Overall, participants across the groups reacted positively to the idea that the Bill would create a new category specifically for precision bred foods.

Due to the scientific differences between genetic modification and precision breeding, participants felt it logical that the two were separated. This scientific difference – that precision breeding achieves mutations that could occur naturally or through conventional methods – was something that participants reflected on frequently throughout the second workshop and seemed to be an important driver in accepting precision breeding in general.

Participants also felt that this separate category would improve transparency around precision breeding, by demonstrating the scientific difference to consumers and reducing confusion between the two. Participants acknowledged that by creating a new category, precision breeding regulation processes may be a lot quicker than those for genetically modified foods, and so precision bred products could become available much quicker. They felt this may improve consumer choice for those who are happy to eat precision bred but not genetically modified foods.

However, these supportive comments were often subject to the caveat that precision breeding still be subject to thorough testing and regulation, even if it is to be removed from the scope of GMO

regulation.

Negative views on the Bill:

Some participants fundamentally disagreed with the distinction between genetic modification and precision breeding. It is important to note that this view was separate from participants who did not understand the distinction. Those who disagreed with making the distinction between the methods argued that even though precision breeding makes changes that could be achieved naturally or through conventional methods, it is still altering DNA and should be considered a type of genetic modification.

Those who disagree with the distinction often argued that Bill allows for a re-brand of genetic modification, giving producers an opportunity to overcome the public's negative perceptions of genetic modification. This would enable them to use the term "precision breeding" to bypass laws and regulations about genetic modification without the public scrutiny that usually comes with it.

"When you speak to people about genetically modified foods there's a deep concern immediately. Are they just looking to change it from genetic modification to precision bred to win people over? **"(Workshop 2, Wales)**

Some participants were sceptical about the intention behind the Bill, often linked to the way precision breeding was defined. These participants explained that precision breeding being defined by changes that 'could' occur naturally or by conventional breeding methods, is different to changes that 'would' occur naturally. This wording led some to think that the bill could allow precision bred outcomes that technically 'could' have happened without this intervention but would have been unlikely enough that they could be considered artificial or unnatural.

There was also concern about how the public would understand these distinctions Participants seemed worried that the public may not understand the differences between precision breeding and other techniques for developing new types of food, leading to confusion. These participants questioned the relevance of a new food category if a large section of the population does not understand the reasoning behind it.

Areas of confusion and questions about the Bill

A key area of confusion was the title of the bill and the terminology used. For participants, having the words 'genetic technology' included makes it seem as though precision breeding is a type of genetic modification. This was particularly confusing for participants as they understood that the bill endeavoured to separate these two forms of food production

"The bill's the 'Genetic Technology Bill: Precision breeding'. That doesn't help the clarification in people's minds about the confusion around your definitions" **(Northern Ireland, Workshop 2)**

Despite some confusion, participants in general were curious to learn more about many areas of the bill, particularly about the role of ministers being able to approve a new precision bred crop. Participants wanted to know more about what it meant for ministers to have this responsibility, as they worried that it would allow precision breeding to become more about business than benefitting consumers.

Participants also wanted to know about what decisions would be made further down the line in relation to importing precision bred foods from other countries and introducing precision breeding to livestock. In both instances, these questions demonstrated concern about possibilities, especially precision breeding in livestock.

Understanding of the FSA's role in precision breeding regulation

The role of the FSA was generally clear to participants. It was understood that DEFRA would make decisions that precede the FSA's own assessments, and it would be the FSA's responsibility to manage the regulatory approval process for precision bred food as it was introduced.

Participants were positive that the FSA would be working alongside DEFRA on introducing precision breeding, as it was suggested that the two authorities could hold each other to account. This was linked to wider questions about the independent nature of the FSA and how its work aligns with the role of parliament and wider government. Those who questioned the FSA's independence voiced general distrust that any organisation can completely avoid political or financial influence – and doing so was something participants generally thought was important.

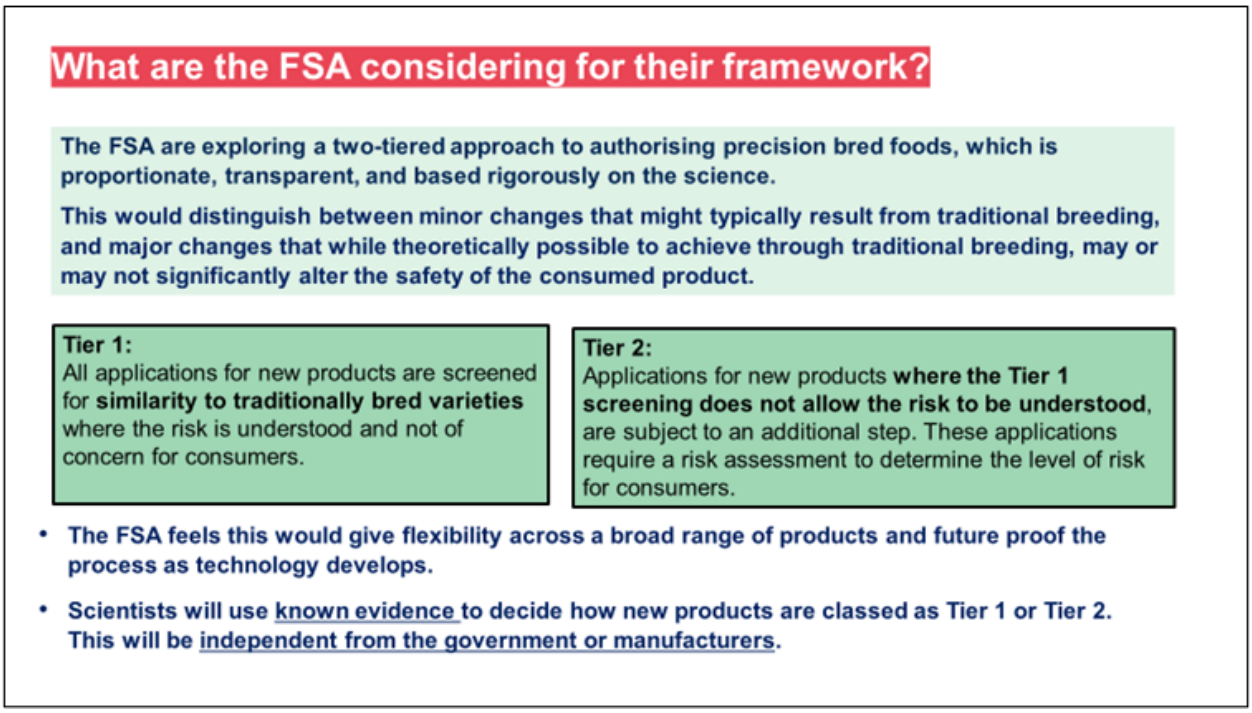
Considering this, participants were curious as to how FSA resources would be directed towards precision breeding, should the Bill pass. They wanted to know how much of the FSA's time and staff would be spent on regulating and assessing precision breeding to affirm safety.

Reactions to the two-tier framework

Participants were introduced to the potential two-tier framework for risk assessing precision-bred food products at a very high-level (see Figure 8 below, and the full workshop materials in Appendix 3). It was explained that the purpose of the framework is to separate lower-risk, or more understood, changes from more significant, or less understood ones, so they can have suitable and proportionate levels of risk assessment and scrutiny. The aim for the framework to be 'future proofed' (for the tiers to remain proportionate and applicable in the future when precision breeding technology has advanced) was also explained to participants.

It was stressed that the framework is very much in a developmental stage. There were participants who struggled to grasp the tier system without clear examples of precision bred products and how they would be processed through this framework.

Figure 10: Slide shown to participants on the two-tier framework



Positive views on the two-tier framework:

There was a widely held view that in principle the proposed two-tier framework is a rigorous system that would give consumers confidence that precision breeding would be regulated thoroughly. Participants thought it would be appropriate to divide precision bred food into tiers according to levels of risk as suggested. Participants particularly liked that the FSA were looking to distinguish between risks that could realistically happen, and those that are very unlikely, and they saw this as a logical approach to regulation.

“It's quite reassuring, the different stages and amount of legislation that everything has to go through. It makes me feel a bit better about it than I did last week.” **(Workshop 2, England)**

Participants saw the framework as an efficient use of FSA resources, suggesting that time and money would not be wasted in over-assessing foods and products are in Tier 1 and that we already know to be safe, allowing more time to be devoted to unknown products that require a more rigorous assessment via Tier 2. This was caveated for some by fear that insufficient FSA funding could undermine quality of risk assessments.

Some participants saw the framework as an opportunity to educate the public on precision breeding, as an introduction into the landscape of food regulation, even if they do not fully understand the topic. These participants thought the framework could be a steppingstone for the public, allowing them to do further independent research if they were interested in the topic.

Negative views on the two-tier framework

Participants were not unanimous in their support for the two-tier framework. Some felt as though a shorter route for assessment (Tier 1) would never be appropriate, due to their concerns that there is no way to predict what risks may be discovered in the future. With this reasoning in mind, these participants felt strongly that all precision bred products should be subject to Tier 2 level screening.

To illustrate this point, one participant explained that Tier 1 foods are still fundamentally different from their “traditional” alternatives, arguing that if they were genuinely similar there would be no need to modify them using precision breeding in the first place.

“What is the margin to traditionally bred varieties? If Tier 1 is so similar, what was the point [of precision breeding] in first place? **(Workshop 2, Wales)**

Concerned participants argued that Tier 1 may be an opportunity to short-cut past rigorous assessment processes, getting precision bred foods on the market and avoiding what they perceived as adequate safety checks. These participants were concerned that foods subjected to Tier 1 level assessments may receive less thorough screening which may potentially fail to pick up on harmful side effects.

“That's just a government way of cutting corners. Everything should be treated exactly the same. There's no reason for a Tier 1 and a Tier 2. It's all precision breeding, so it can all have an impact and should be treated the same." **(Northern Ireland, Workshop 2)**

“I'm concerned about the small ones where there's less screening. They could slip through the net. If it's a minor issue, but for some people it could be big.” **(Wales, Workshop 2)**

Participant suggestions for the two-tier framework

Some participants felt strongly that the two-tier system should only apply to precision bed crops, not livestock. These participants said that the framework did not give them the same level of confidence for precision breeding in livestock as it does with crops. This was rooted in the view that precision breeding livestock is far less acceptable and possibly riskier than for crops. In these discussions there were often references to the Foot and Mouth and Mad Cow disease

outbreaks.

As a result, participants expect precision bred livestock to have its own approach, suggesting that a three-tier system may be more suitable to capture the full scope of precision breeding and its risks. Some also felt that precision bred livestock should not be permitted and should be subject to a separate Bill and regulation system entirely.

Participants wanted the regulatory framework to ensure equal and fair access to precision breeding technology. They explained their concern that complex regulation processes may make it disproportionately harder for smaller producers to navigate, putting them at a disadvantage when competing with larger, more resourced producers in this new landscape.

Communicating the framework:

When considering how the framework should be communicated to consumers, there were a range of expectations. Some participants felt it very important that the tier framework is communicated to the public to gain public trust. For some this meant that the public should be informed what the tier criteria are, whilst others expect a product's tier level to be shown on packaging. This was mainly due to the difference in risk between the tiers, and so participants said that while they may be comfortable eating Tier 1 foods, they would not feel the same about Tier 2.

Comparatively, others felt that any potential risks of a product should be communicated, but not necessarily the tier it has been categorised as. These participants pointed out that we do not inquire about the safety processes behind other types of food, and that the public should put their trust in scientists to communicate any specific risks.

"With natural food, we don't get to know all the testing that happens, we just get the traffic light system, the fat and sugar content and such. We don't know the tests. I don't think we need to know all the risk assessments, just that its precision bred." (Workshop 2, England)

Not all participants thought the tier system should be actively communicated to consumers. There was also concern about giving the public overwhelming amounts of information on regulation. Participants noted that it would be difficult to communicate the level of knowledge given in the workshops to the public without it being confusing. In one instance, having tier information on packaging was compared to reading a patient information leaflet for medication.

"I just think it could get confusing. I was listening to it, and I struggled to tell the difference between Tier 1 and Tier 2. GM has been around forever, and I still don't fully understand it. If you had Tier 1 PB, Tier 2 PB, and GM, no one's going to understand it." **(Northern Ireland, Workshop 2)**

Some participants acknowledged that they personally may not be interested in knowing about the tier level of foods, but still thought that it was important this information should be available for those that do want to know.

Nation specific attitudes to regulation

In the workshops held with the devolved nations, there was a clear concern about how an England-only bill could impact Wales and Northern Ireland due to inconsistent standards between nations.

In both Wales and Northern Ireland, there was concern that their own devolved governments would have no input into safety regulations if the Bill is England only. There was also some frustration that this is an example of other UK nations being impacted by decisions made by

England’s government with no say on whether this is what they want.

“The Welsh or Scots have got no input into the safety of the product, we've got to rely on what English people are telling us?” **(Wales, Workshop 2)**

Welsh participants added further concerns about the impact on the Welsh farming industry, worrying that they may be at a disadvantage to English farmers who are allowed to grow precision bred crops. Welsh participants said that if this was the case, they may avoid buying precision bred products to support Welsh farming.

Participants in Wales suggested that Wales should be ‘all the way in or all the way out’ when it comes to precision breeding. They wanted to know why this was not being proposed as a UK bill in law, as it would affect consumers across all nations. Participants also suggested that an England-only approach may result in unnecessary work for Welsh government if they are likely to introduce a similar Wales-only Bill at a later date. They argued that it could save Wales money and time to collaborate and adopt this Bill alongside England.

“Welsh people are very patriotic, especially in small rural areas... People wouldn’t want to buy those products anyway because they would feel they are putting people in Wales out of business. That’s inevitably what would happen unless we jump on board. **(Workshop 2, Wales)**

“I am concerned about it not applying in Wales, would farmers not be able to use it, and will they be overtaken by English farmers that can?” **(Workshop 2, Wales)**

For Northern Ireland participants there were specific concerns about England-approved precision bred organisms in relation to the issue of the Protocol on?Ireland/Northern Ireland. They worried that inconsistent precision breeding rules could complicate matters at the border but were also keen to see existing standards in Northern Ireland maintained.

“In Northern Ireland, we're in this big checkpoint with Brexit. There may be a border in the Irish Sea, we don't know. But making sure standards are maintained.” **(Workshop 2, Northern Ireland)**

“Who knows what's going to happen with this protocol thing. Right now Northern Ireland is in line with the EU... If the UK standards were lower than the EU standards then they potentially wouldn't be allowed in Northern Ireland” **(Workshop 2, Northern Ireland)**

Participants also noted that crops cannot easily be confined by land-borders, which may cause challenges with any contrast in precision breeding policy between Ireland and Northern Ireland.

“A precision bred potato has no idea which side of the border it's being planted and grown. Surely, won't it be very important that future proofing includes the alliance of Irish and Northern Irish regulations and attention on this issue?” **(Workshop 2, Northern Ireland)**