

SUBJECT: GENOME EDITING: ACCESSING WIDER PERSPECTIVES

**MEETING: BIOSCIENCE FOR SOCIETY STRATEGY PANEL
12 JULY 2016**

SUMMARY:

This paper outlines the recent activity around genome editing and proposes that a sub-group is formed to develop recommendations to BBSRC on why and how it might access and engage with a wider set of perspectives.

During the meeting a short presentation will update the panel on the status a piece of work looking at how genome editing is framed in BBSRC-funded grant applications.

ACTIONS

The Panel will be asked to:

- i. **NOTE** on the recent activity
- ii. **ENDORSE** the creation of a sub-group as proposed
- iii. **SUGGEST** members from BSS, and other external expertise or individuals, who might be invited to join the sub-group

GENOME EDITING: ACCESSING WIDER PERSPECTIVES

BACKGROUND

About genome editing

1. Genome editing is a molecular biology technique that allows targeted mutations to be introduced into an organism's DNA. There are a raft of technologies which are broadly grouped together as genome editing. Genome editing is heralded as a step-change in molecular biology due to its relative ease and rapidity of application.
2. For more detailed explanations of the technology and its implications see, for instance:
 - BBSRC position statement¹
 - Application areas:
 - studying fundamental biology²
 - changing characteristics in plants³ and animals⁴
 - potential applications in human health⁵
 - Other activities and position statements:
 - Nuffield Council on Bioethics working group on genome editing⁶
 - The Hinxton Group statement on Genome Editing Technologies and Human Germline Genetic modification⁷

RECENT ACTIVITY

BSS

3. BSS discussed genome editing in its October 2015 meeting⁸. From this meeting BSS, “supported early engagement with this topic with the widest possible range of stakeholders”⁹ and encouraged BBSRC to explore a number of points including challenging assumptions around the drivers of the technology and the impacts of any engagement (for full list of points see meeting minutes). In particular, BSS urged BBSRC to undertake a comprehensive approach to stakeholder identification and analysis.

Global Food Security Public Panel

4. The Global Food Security public panel were prompted to discuss genome editing as part of a much wider discussion on innovation in the food system (including innovations in behaviour, regulation, technology etc.). Panellists did not prioritise genome editing for in-depth discussion but online comments about the technology broadly reflected similar discussions

¹ <http://www.bbsrc.ac.uk/news/policy/2014/141028-pr-position-statement-on-crop-breeding-techniques/>

² <http://www.bbsrc.ac.uk/news/health/2014/140528-pr-breakthrough-shows-how-dna-is-edited/>

³ [Reference/webpage no longer available – April 2018]

⁴ <http://www.bbsrc.ac.uk/documents/1508-pig-26-new-way-edit-genetic-code-pdf/>

⁵ <http://www.bbsrc.ac.uk/news/health/2014/140528-pr-breakthrough-shows-how-dna-is-edited/>

⁶ <http://nuffieldbioethics.org/project/genome-editing/>

⁷ http://www.hinxtongroup.org/hinxton2015_statement.pdf

⁸ <http://www.bbsrc.ac.uk/documents/1510-bss-meeting-papers-pdf/> paper BSS 21/2015

⁹ <http://www.bbsrc.ac.uk/documents/1510-bss-minutes-pdf/> point 29

to those around GM – of the 14 comments received on genome editing, 5 were positive, 6 were negative and 2 were uncertain. See the full report¹⁰ for details.

Nuffield Council on Bioethics and Sciencewise workshop

5. The Nuffield Council on Bioethics and Sciencewise co-hosted a workshop to discuss the possibilities and limitations of public dialogue for genome editing policy and regulation on 17 March 2016. A report of the workshop is available online¹¹. The workshop raised a number of interesting points, including:
 - There is much commitment to engaging the public in various policy documents – but no plan on why or how to do this.
 - There is an interesting divergence around the needs of policy makers/regulators (who see no immediate need for dialogue) and the wider community (who value the role of engagement in shaping research and innovation direction).
 - Non-human uses of the technology (e.g. in agriculture) seemed more apt for public engagement, the issues around human uses were seen as relatively well rehearsed
 - It was proposed to create a “networked ‘observatory’ across public institutions and interested organisations ... to identify developments in genomic science with potential impact on public policy, particularly those that cut across organisational distinctions and divisions of formal responsibility”

Development of robust stakeholder mapping tool

6. BBSRC is working with Academics at the University of Nottingham and Kings College London to develop a robust stakeholder mapping tool. The tool consist of four steps:
 - Understanding the organisational siting of the topic
 - Internally identifying the purposes and claims around the topic – and the likely key actors
 - Putting this knowledge into a wider context
 - Mapping external knowledge and actors
7. Findings around the claims element of this work will be presented at the meeting

Other Strategy Panels

8. The BBSRC Exploiting New Ways of Working Strategy Advisory Panel (ENWW) has raised that they would like to explore the role of public engagement around genome editing.

PROPOSAL:

9. Establish a small working group including BSS members, ENWW members and external expertise to develop recommendations to BBSRC around the purpose of accessing wider perspectives and how this might be achieved.

¹⁰ <https://www.foodsecurity.ac.uk/publications/food-futures-panel-understanding-consumer-priorities-food-innovation.pdf>, page 53

¹¹ <http://nuffieldbioethics.org/wp-content/uploads/Public-Dialogue-on-Genome-Editing-workshop-report.pdf>