

SCIENCE UPDATE

Report by Professor Guy Poppy, FSA Chief Scientific Adviser

For further information contact Patrick Miller on 020 7276 8277,
patrick.miller@food.gov.uk

1. Summary

1.1. In this annual report I give my view as FSA's CSA on FSA's science, outlining where we stand and the key opportunities and challenges ahead.

1.2. I invite the Board to:

discuss my report and, in particular, the opportunities and challenges ahead which I have identified for FSA science.

2. Introduction

2.1. Science is fundamental to the FSA's work and our ambition to become a modern, excellent and accountable regulator. My role as CSA is to use my networks and provide independent expert advice and challenge to ensure FSA meets the shared goal of being a scientifically literate regulator. This means being an intelligent customer for science, sourcing and using the right science across the FSA's work – but also being an intelligent provider of what is needed. This requires working externally and internally to link up across all the multiple customers and providers.

2.2. This is my first report giving my personal perspective, reflecting on my 3 years in the role and looking forward to the next half of my term. It complements the independent report from the Chair of the Science Council on her view of FSA science (FSA 18-03-06). Detail on delivery and performance of FSA Science is given in the paper from the Executive to the Business Board in autumn, most recently in December 2017.¹

3. Discussion

Where we stand

3.1. Since I joined FSA as its first CSA, in August 2014, on part-time secondment from the University of Southampton, we have made good progress in reviewing and refocusing our needs for and our use of science. This built on a good track record in using science, but needed to adapt to our developing role and operating environment and ambitions for regulation, and to link better with science outside.

¹ Paper FSA 17/12/15. www.food.gov.uk/sites/default/files/fsa171215n.pdf

- 3.2. I have focused on working internally to understand the FSA and its needs coupled with external engagement to raise the profile of FSA and to ensure the best possible advice is being accessed.
- 3.3. We are steadily building our engagement and profile including through my CSA role, links with the CSA network across government, and engagement with leading science funders and capabilities in the UK and internationally. I am part of the network of CSAs across government, coordinated by the Government CSA and Government Office for Science,² which allows excellent cross-government working and for the FSA voice to be heard across government on policy for science and how science is used for policy. It provides direct links to work in other and larger departments and to the centre of government, and there is scope for FSA to make more use of this on shared and strategic areas such as the use of blockchain.
- 3.4. This engagement has allowed us to share and identify good practice and common and co-ordinated approaches, including on emerging technologies, communication on health risks, science and EU Exit, and in response to incidents such as fipronil in eggs. It has helped build partnerships in key areas such as genomics and data science, and to attract high-calibre candidates to some key advisory roles.
- 3.5. This high-level engagement is a key part of my role as CSA but it can't rest only on me – FSA needs to develop a more general, and a more deliberate programme of engagement by staff across the organisation, to deliver the levels of linkage and leverage that we will need. This requires staff with the right skills (we have some capable people, but need more), and they need to be given the license and the time to do this.
- 3.6. We have become more confident in identifying clear priorities and focusing on these. We have a clear structure for the science work which allows us to think about priorities and trade-offs. To give a concrete example, the AMR systematic review, one of the first projects I commissioned using the Strategic Evidence Fund, was crucial to giving us a clear picture and consensus on gaps, leading us to prioritise work on AMR surveillance. This is an important example allowing us to play our part in cross-government response to cross-cutting issues, of which many are in the food system.
- 3.7. I have also initiated reviews of our expertise in key areas. The Triennial Review of the FSA's SACs, and the recent independent reviews of risk assessment and of social sciences, have given us a sound basis to plan and develop our approach, informed by robust evidence and perspectives from senior experts

² <https://www.gov.uk/government/groups/chief-scientific-advisers>

from the wider science community. These reviews allowed us to be confident in taking some bold steps to refocus and refresh our approach.

- 3.8. Our work with the new Science Council exemplifies this more mature approach. Close engagement between them and the FSA ensures a clear understanding of and focus on priority issues for the FSA. I have focussed on helping establish new Science Council and new Advisory Committee on Social Sciences, but it is important that we all help utilise all of our SACs as a key contribution to FSA's being a modern, accountable and excellent regulator.
- 3.9. If we want to maintain this and mirror it across all our SACs we will need to accept that this engagement requires more time from both sides. I would argue that this is an investment that delivers better outcomes and better value overall.

Challenges and opportunities (i) the role and operating environment of FSA

- 3.10. You don't need to be a CSA to see that there challenges ahead. As we prepare to leave the EU and develop our work to be an excellent, modern accountable regulator, we need to confident ourselves and to demonstrate to others that FSA's work is underpinned by the best science, used effectively and properly. How we can do this is the rationale for the first two of the three priority questions which we have set for the Science Council.
- 3.11. It is likely that we will need to develop our access to and use of external expert advice, particularly in risk assessment. Some of this expertise is highly specialised and the 'supply' of new entrants to these areas is falling. We will need to ensure we are reaching and attracting the best people. The risk assessment and social sciences reviews identified different models to access expertise, and we are reviewing our approach to managing interests to ensure it is proportionate and not an unjustifiable barrier to service. I am discussing wider recognition for expert advice with other CSAs; while one incentive which is in FSA's gift is to set a higher level of remuneration for this work. Equally important is ensuring the integration of SAC's into FSA: ensuring the effective iteration and dialogue between risk assessment/expert advice and decision making, as highlighted in triennial review, helps improve outcomes and to attract and retain quality members.
- 3.12. I would like to flag the importance of having a Head of Science and Deputy CSA to help me maximise my impact and to have better integration of my work into the FSA. We are seeking to recruit a new person to focus on this role following the departure of Javier Dominguez from FSA and this role will be critical as we prepare for leaving the EU and as I move towards the end of my secondment to FSA.

Challenges and opportunities (ii) the future food system

- 3.13. Without underplaying the immediate challenges from our role and working environment, we face significant challenges of another order from the complexity and dynamism of the global food system. We have made some good first steps to understand the opportunities and risks this may present, and to address them in our strategic science. Our first strategic fellowships in data science at UCL and in genomics at the Quadram Institute, and pilots on sensors, the internet of things, and on blockchain, give us access to cutting-edge capability and wider investment in these areas. This helps focus work in these areas on food issues and on finding radically new ways to understand and manage risks and to improve information and control on the food system.
- 3.14. This is a good start but we need a more robust and widely-informed understanding of the global food system, and the opportunities and risks for FSA and for UK consumers. We need to understand how changing patterns of sourcing of food/food ingredients, new trading networks, and new technology-enabled business models present risks and opportunities for regulation. I think it is fair to say that we often focus on new technologies (such as gene editing, new packaging) but less on new business models (internet shopping, discounters) or consumer patterns/behaviours, which is why social sciences are key and why establishing new and effective committee will be crucial.
- 3.15. This is the driver for the third priority question for the Science Council: how can we move to a more broadly informed, up-to-date and systematic understanding of the global food system?
- 3.16. Having this insight will be of limited use if we are not able to act on it. In this and in other areas we need to be confident we have the internal capability as intelligent providers and intelligent customers and users of science. This takes time to build, and is easily dispersed as people and priorities change. The Council is helping us understand what we need and how we can be confident we are developing it in the best way. The Board discussed the fall in FSA's external science spend in December, and while there are many factors in that, I would flag here that delivering good science projects and partnerships takes skill and time. Our big successes such as the fellowships on big data and with Quadram have required championing and human resource. We must ensure we have good people willing and able to commission and utilise strategic science, which allows us to foresee and prepare for change and offer ground-breaking approaches to help protect public health.

4. Conclusions

4.1. Since I joined FSA as its first CSA we have made significant progress in ensuring we use the best science and evidence to drive FSA's work, including building more effective engagement with senior science groups, funders and networks and with expert advisers, and in taking a more strategic approach. I am proud of this record and of FSA's science work, and it serves me and FSA well in our external engagement, showing we are a credible voice and a desirable partner. My impression is that our presence and respect in government and wider scientific circles has been enhanced. FSA's agenda and approach offers great opportunities for people developing new technologies and concepts to test and apply them to real world problems with clear impact, and for FSA to tap into wider investments. We should maximise and target our use of these opportunities, which again requires resource, skills and capability. The Science Council is helping us identify ways to strengthen our approach in these areas, and to understand better how we can assess and demonstrate to ourselves and to others how we are doing, providing more concrete assurance on our performance and progress.

4.2. However, this is just a start and we face significant challenges from demands on us as our role changes, from an increasingly complex and changing food system, and from increased scrutiny of our role, and pressures on our own science capability and our ability to engage externally. I would like us to be recognised as a leader in using science in food safety and regulation and a body that people want to work with. This will require smart working and some serious consideration on priorities, but I believe we have a basis from which we can be confident of delivering, working with our partners, and not least our expert advisers on the Council and elsewhere.