Nano and Food - issues review for February 6th Meeting

This paper summarises the key issues which participants in this meeting felt were important and will provide the focus for the discussion. Three participants were unable to contribute and their perspectives are not represented here.

The areas of importance are summarised as follows:

What products are currently available enabled by the various nanotechnologies?

Most participants highlighted the discrepancy between industry and other stakeholders' views about which products are currently on the marketing enabled by nanotechnologies and stressed the importance of information and transparency in this area.

"no-one knows who is using what, how and where, it is a real mess"

The lack of definitions adds to the confusion

This discrepancy is exacerbated by the lack of a clear definition and common terminology describing the spectrum of the various nanotechnologies currently or potentially used in food, packaging and food supplements. Participants felt that this must be addressed as a matter of urgency.

"is it 100nm, 200nm or is it 300nm - is size even relevant - no-one seems to agree on the basics?"

Is it really even nano?

Because of this, the umbrella term is being used to describe some uses which may not actually be nanotechnology, or whilst enabled in some way at the nanoscale, may not end up at the nano scale in the final product, or may not materially differ from long standing usage of technologies or materials and so pose no new risks or concerns.

"there is a real risk in the way this single term is being used, we really should be much more specific"

...and is adequate health, safety and environmental testing being done?

However, it also gives rise to concern that this confusion may also have affected the funding of safety testing and there was no consensus among those interviewed about the testing being done in this area, particularly on the ingestion of even the most common nanomaterials and their behaviour in the gut. Again a lack of shared information was evident with some stakeholders feeling that significant testing was being done, and others that it was not.

In addition concern was expressed about the use of nanotechnologies in pesticides and in agriculture in general and the importance of testing and regulation in this area was stressed.

"Who will fund the testing of these application and materials? We see very little going on in this area, particularly in the area of ingestion."

Unclear definition also has an impact on regulation

Whilst many felt that regulation of food may be adequately covered by current or soon to be adopted legislation, others felt that some product areas being deemed new and potentially subject to new regulation were not, and others that certain nanomaterials or processes will not be covered adequately by regulation. In addition the ability to safeguard consumers from products available abroad and over the internet was also an area of concern for some.

What is actually going to be the benefit of the technology for the sector?

"the market is moving away from artificial additives, so the nano applications would have to have a consumer benefit which is more than just a functional improvement"

Whilst all participants expressed the importance of a clear consumer benefit from the use of nanotechnology, some were unsure about the real benefit that the technology currently offers to food, packaging or supplements sectors; particularly given the potential for a consumer backlash against the technology as a whole. The 'spin off' from other sectors, such as cosmetics, will also influence the debate, both positively and negatively. Some felt that interesting products could be available relatively quickly, but questioned if many of these were 'real' nanotechnology at all.

At the moment, in our area, there is no 'killer app' which makes it really worth the cost and the potential impact on reputation if consumers decide they don't like nano"

Concern about stakeholder understanding and representation of issues

The lack of clarity around definition, regulation and safety testing has also contributed to the concern of ngos and consumer groups about nano and food, which has in turn resulted in lack of trust between industry and these groups, and perhaps ultimately the general public. This distrust is manifesting itself in a lack of communication and engagement between many companies and their stakeholders. Examples were given of some companies refusing to attend meetings where ngos are present as they feel they have deliberately misrepresented the technology to restart old quarrels. Others feel that ngos are not sufficiently informed and are misrepresenting the data in failing to consider other perspectives and not participating constructively in the development of 'solutions'. Others feel that industry has brought this upon itself with poor communication on critical issues and lack of transparency on testing.

Company response questioned

"What's the business response? Hide."

The effectiveness of the apparent 'low profile' strategy which is often perceived as being adopted by companies, was questioned by many participants. Some, even within industry, expressed the view that better communication about their involvement in nano and disclosure about their testing protocols is need to build the confidence of ngos, consumers, government and scientists. Others highlighted the proactive stance that the food industry was taking with its own Code of Conduct and desire to involve scientists in the development of better risk management assessments.

So what can be done?

Whilst the issues raised here were common to most participants, the interviews did not explore in any detail how concerns may be resolved. All participants agreed that many of these issues need to be acted upon as soon as possible and welcomed the focus of the meeting on 'solutions'. The possibility of mandatory reporting of usage of nanotechnologies was discussed by some participants to overcome this gap in knowledge. Product labelling was also raised as a potential area of clarification though many participants felt it would be misleading given the nature of the technology. The importance of improved and open communication between stakeholders and with the public directly was stressed by many.

Who would do it, how and how long would it take?

Who would be trusted to resolve some of these issues? Should the UK take independent action? Does it have to be worldwide? Which countries would need to be involved? What happens if the EU takes a different approach from the rest of the world? How will we ensure the process is trusted by all parties? Should we have a stamp of approval like a 'Fairtrade' mark? Is that even possible? How can it be done at a speed which keeps pace with the technology?

The Aim of the meeting

It is the aim of the meeting to begin to brainstorm how these issues may be resolved successfully and relatively quickly. Participants may decide individually or collectively if they wish to act on any suggestions made at the meeting and the Responsible Nano Forum reserves the right to support suggestions on approval from its steering group.

Hilary Sutcliffe, Responsible Nano Forum. February 2009