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(2016.003-Commissioner Andriukaitis - NBT)

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European Commission  
Rue de la Loi / Wetstraat 200  
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Brussels, 22 January 2016

## **Re: Decision on new breeding techniques**

Dear Commissioner,

With regard to the emergence of breeding techniques focusing on the development of new seed traits within a given species through genetic engineering, the European Commission is due to issue a decision in the coming weeks interpreting whether the current legal framework applicable to GMO should be applied to these new breeding techniques (genome editing).

Mobile seed processors are companies preparing seeds for farmers (i.e. sorting, cleaning, treating and packing). The result of this tailored-made service is called farm saved seed and is present in all EU Member States. Farm saved seeds represent an average of 50% of the seeds prepared each year for the European agriculture (depending on the country and the type of crop).

Mobile seed processors are therefore involved in propagating seeds; they are liable with regards to their customers and they have to avoid as much as possible to propagate disease. The current evolution of the breeding techniques will have an impact on their business, hence this contribution addressed to you on this crucial issue.

In essence most of the earlier GM techniques involved isolating or creating traits and then inserting them into another organism. This insertion was originally done using either micro-organisms such as *Agrobacterium* or bombarding tiny Gold or Tungsten particles in to a cell with the new DNA on it. Often an antibiotic resistance gene was used alongside the trait to allow the scientists to eliminate cells which did not incorporate the new trait in their DNA.

Genome editing does not involve insertion of new traits as such. In essence DNA contains certain gene sequences which are "active bits" and certain bits which are "gene switches" which turn genes on or off. There is also a lot of DNA which is "clutter" which has accumulated over evolutionary time and is "genetic junk" and forms no active role as far as we can see. You can use an analogy here of a computer which has programmes which run a function but a lot of stuff which has accumulated over time and performs no real function! However the difference with a computer is that a programme can be run to remove clutter and "de-frag" to tidy things up. This cannot happen with plant genes!

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Genome editing uses "natural enzymes" to "cut" or "cut and paste" bits of DNA so it is different to the original genetic engineering in so far as no "foreign" DNA is being added. The scientists are removing or moving or switching genes on or off which are already there in the plant or animal.

Are these new breeding techniques equivalent to GM techniques? Well, it is clearly not traditional plant or animal breeding as we know it. Genome editing produces reproducible genetic change and may well be patentable.

How precise is the technology? To take again the computer software analogy, genome editing is equivalent to taking a line out of a computer programme and pasting it somewhere else and then running the programme again. It might work better or different but might just crash at some point! We know that genes interact in various ways so changing the genetic code may have undesirable consequences.

The plant breeders and agrochemical companies claim precision and certainty about the outcome of what they are doing with these techniques with no side effects. However, given the fundamental genetic transformations that arise from these techniques, is it reasonable to assume that the products of these techniques are safe? Is it in the public interest that the food and feed that arises from these changes is not publicly scrutinised by EFSA or some similar independent organisation? Surely public safety testing is essential of these products?

EFSA, on behalf of the mobile seed processors, considers first that any plants arising from these new breeding techniques should be subjects to a risk assessment and labelling requirements applicable to other GMOs for at least three reasons:

- Precision is not the same as predictability. There are questions about just how precise these new techniques are, but even if they can make very precise changes to the genome that doesn't mean that the results can be entirely predicted. DNA is not lego and a change in one place can have unexpected impacts elsewhere.
- Classification as GM means the products of the techniques will be regulated and labelled, not banned. If plant breeders are sure they are safe, why not allow them to be tested and identified by farmers and consumers?
- The new technology could well be patented with patentable methods or genes, in contradiction with the successful existing plant variety rights system, which would limit the right to farmers to save seeds and lead to a greater concentration of market power in the EU seed market.

We remain available to provide you further information and supplementary details, should the Commission organise a meeting or a consultation of the stakeholders on this issue.

Yours sincerely,

[signed]

Nigel DAY  
President