Section 1.2 Environmental protection goals
Table 2 in section 1.2 presents data on the total numbers of species described and estimated to exist by the Convention on Biodiversity. It reveals that around 12.5% of all the estimated species across all kingdoms have been described. In most cases the function of these species may not even have been studied. GM Freeze believes that this underlines the need for GM plant risk assessments to adopt the precautionary principle where there are knowledge gaps or uncertainty about data. The importance of the soil to all terrestrial life, along with the lack of knowledge of the species or ecology of the soil, means that GM plant risk assessments must openly and transparently adopt the precautionary principle when assessing impacts on the soil.

Section 1.3. Receiving environments
GM Freeze believes that applicants should have to provide reliable data on non-target species in all the bio-geographical zones and habitats in which the GM plant is likely to be grown and to ensure that all potential habitats and species likely to be exposed to the GM plant are investigated as part of the risk assessment. Exclusion of any habitat or species by the applicants must be backed by data in support of such a decision. It should be made clear by EFSA that any data gaps will mean that applications will fail.

Section 1.5 Limits of Concern
UK biodiversity policies are aimed at reversing declines in species in agro-ecosystems and associated habitats and therefore any impact on a non-target species, other than an improvement, would be unacceptable.

1.7.1.2 Guidance for selection of test species (“focal species”)  
GM Freeze believes that applicants must be able to back up their choice of “focal species” by reference to its functions and populations in the agro-ecosystem and associated habitat (eg, streams, ponds, hedges and field margins), evidence of exposure to the GM plant(s) or to crop management changes. Applicants should not be permitted to select focal species on the basis that they are easier to study or that data already exists rather than species which could genuinely be affected by the presence of GM plants or their management.

1.7.5.2. Field trials
EFSA recognise that field work is important in identifying possible exposure routes for non-target organisms. This is a vital area and one in which previous risk assessments have fallen down, leading to potentially damaging exposures taking place (eg, exposure of non-target species to pollen blown or washed off fields, or carried by predators via their herbivore prey, or the long distance transfer of seeds or pollen by wild species).

Applicants must be required to identify all exposure routes in order to test the right species in the following stage of ecotoxicological testing. Identifying exposure routes or pathways can be done without releasing GMOs into the environment based on the behaviour of species in conventional crops.

We also recommend that testing should examine impacts on reproductive potential and longevity over a number of generations as well as the standard toxicological testing.

1.8.6. Statistical analysis of field trials
Field trials are generally designed to detect big differences between crops or management techniques. Smaller differences can be cumulative and become ecologically significant over several growing seasons. The EFSA guidance makes only passing reference to cumulative effects. Smaller differences may not be detected or could be assumed to be standard error. We recommend that the EFSA guidance should include detailed guidance on how cumulative effects should be assessed and the limitations of the methods available. For instance meta analysis (combining the results of several unconnected studies) can suffer from bias caused by applicants selecting studies which show favourable rather than unfavourable results or the selection of inappropriate studies to included because there are so few appropriate ones available.

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