Application EFSA-GMO-NL-2018-153 (soybean GMB151)

Comments and opinions submitted by Member States during the three-months consultation period

Country	Organization	Reference	Topic	Comment	
Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.2.2 Information relating to the genetically modified plant	AUT Comment_01	2.2.2 Information on the sequences actually inserted or deleted For the characterisation of the size and copy number of all detectable inserts an approach based on Next Generation Sequencing and Junction Sequence Analysis (NGS/JSA) was used instead of an analysis by Southern Blot (FROM CBI: GEN170607_H). This approach was based on a standardised procedure applicable to all events generated by the current techniques of genetic modification (Kovalic et al. 2012). The characterisation of the transgenic insert in GM soybean GMB151 presented in GEN170607_H is acknowledged. However, we note that the analysis is dependent on selection of relevant sequence reads from the overall output of high-throughput sequencing runs. Parameters for the selection comparable to Kovalic et al. (2012) were used. The notifier states that no vector sequences are present in GM soybean GMB151 (Scientific Information, p. 45). However, a 21 bp sequence of the ORIpVS1 from vector pSZ8832 has been detected as part of a filler DNA element at the 3' junction region of the transgenic insert. EFSA is requested to ask for further information concerning the relevance of this vector sequence in GM soy GMB151. Bioinformatic analysis of the integration locus indicates that the insertion of T-DNA sequences in the GMB151 soybean is located in the 3' untranslated region of a putative endogenous gene annotated as a BON1-associated protein 1-like protein. However, no information is given to which extent the expression of the BON1-associated protein 1-like protein is influenced by the integration of the T-DNA. EFSA is requested to ask for experimental data on the influence of the disruption of the 3' untranslated region on the expression of the gene coding for a BON1-associated protein 1-like protein. [Kovalic D, Garnaat C, Guo L, Yan Y, Groat J, Silvanovich A, Ralston L, Huang M, Tian Q, Christian A, Cheikh N, Hjelle J, Padgette S, Bannon G, 2012. The use of next generation sequencing and junction sequence analysis bioinformatics to achieve molecular characterization of crops improved through modern biotechnology. Plant Gen. 5(3): 149-163.].	The characterisation of the insert and flanking regions was conducted according to the EFSA Technical Note (2018) on DNA sequencing quality. Clarifications were requested by the applicant for compliance (additional information received 03/06/2019 and 08/10/2019) and the GMO panel was able to confirm the information provided. The approach used is acceptable in terms of coverage and sensitivity. The molecular characterisation data establish that soybean GMB151 contains a single insert consisting of one copy of the hppdPf-4Pa and the cry14Ab-1.b expression cassettes. Please see Section 3.2.2 of the opinion for more information on the sequence characterisation of soybean GMB151. Please note that the 21bp fragment is fully included in the inserted DNA and it's located at the 3'-end of the insert. The inserted DNA was assessed to identify whether any ORF within the insert and spanning the junctions between the insert and the flanks shows similarity to allergens and toxins as performed in the bioinformatic analysis. The analysis indicates that the expression of ORFs showing significant similarities to toxins or allergens is highly unlikely. The GMO Panel assessed the information provided by the applicant on the potential interruption of the 3' untranslated region of a putative endogenous gene annotated as a BON1-associated protein 1-like protein. Please see Section 3.2.2 of the opinion. In Arabidopsis, interruption of BAP1 gene (encoding BON1-associated protein 1) leads to constitutively active defence response and results in a dwarf phenotype (Yang H et al, 2007) that has not been observed in soybean GMB151. Overall, these analyses indicate that the insertion of the T-DNA in the 3'UTR of the predicted gene for BON1-associated protein 1-like protein does not lead to unintended effects in soybean GMB151; this is also confirmed by compositional, agronomic and phenotypic characteristics.
Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.2.2 Information relating to the	AUT Comment_02	2.2.3 Information on the expression of the inserted/modified sequence In the scientific information the notifier presents ELISA data for the concentrations of the Cry14Ab-1 and the 4-HPPD proteins in	

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		genetically modified plant		GM soybean material produced during field trials conducted at three locations in the US 2016 (Scientific Information, p. 51 and Report M-601077-02-1). All results are presented for soybean grain and forage derived from GM soybean GMB151 (either treated with the complementary herbicide isoxaflutole or untreated). However, the statistical analysis is restricted to basic descriptive statistics, such as means, data ranges, and standard deviation. We note that an appropriate analysis of variance is lacking. In our opinion, a detailed statistical analysis (i.e. analysis of variance) of expression data would be valuable, e.g. as regards the exposure assessment and the toxicological assessment conducted by the notifier. Although the soybean cyst nematode (SCN) penetrates the soybean roots and thus high levels of Cry14Ab-1 protein are needed in the root tissues, the expression of the Cry14Ab-1 protein seems to be consistently higher in green tissues than in root tissues. In addition we notice that the expression of the Cry14Ab-1 protein seems to be consistently lower in treated than in untreated GM plant material (M 601077-02-1, Tab. 1, p. 18). However, these aspects are not further discussed by the notifier. Additionally the report 16-RSVLT212 which contains information on the field trial design (e g. herbicide application timing and rates) is missing in the dossier. We recommend that EFSA requests a comparison of expression data based on a more detailed statistical analysis and based on the requirements included in Implementing Regulation (EU) No 503/2013 (Annex II, 1.2.2.3.f) (EC 2013). We consider that a proper analysis of expression is necessary for the exposure assessment and the toxicological assessment. Furthermore, the notifier should be requested to provide the production plan (i.e. report 16-RSVLT212). [EC, 2013. Commission Implementing Regulation (EU) No 503/2013 of 3 April 2013 on applications for authorisation of genetically modified food and feed in accordance with Regulation (EC) No 1829/2003 of the European Parliament and of the Council and amending Commission Regulations (EC) No 641/2004 and (EC) No 1981/2006. Official Journal of the European Union. L 157/1: 1-48.]	The protein expression data was provided in line with the EFSA guidance requirements. The GMO Panel would like to thank you for the comment. The study has been provided (additional information 04/02/2020).

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.2.2 Information relating to the genetically modified plant	AUT Comment_03	2.2.4 Genetic stability of the inserted/modified sequence and phenotypic stability of the GM plant The analysis of genetic stability presented in the notification (Main_text_EFSA-GMO-NL-2018-153, p. 53) is based on the analysis by Next Generation Sequencing/Junction Sequence Analysis. However, this type of analysis cannot indicate rearrangements of transgenic sequences, other than changes affecting the Junction Sequences spanning genomic border sequences and adjacent insert border sequences. This shortcoming should be taken into account by the notifier when drawing conclusions from the submitted results. Additionally, an estimate of the power of the analysis to detect genetic instabilities should be provided by the notifier.	Indeed. The GMO panel requested additional data by the applicant to demonstrate genetic stability (clock 2; clock 4). The new data was submitted in compliance to the requirements of the EFSA Technical Note on DNA sequencing (EFSA GMO Panel, 2018) confirming the genetic stability of the full insert and flanking regions.
Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.3.2 Experimental design and statistical analysis of data from field trials for comparative analysis	AUT Comment_04	The data presented for the comparative analysis were generated in field trials conducted in the US at eleven trial sites in the year 2017, eight of which were chosen by the notifier for the comparative assessment. The trial included plots with the conventional counterpart, the GM soybean GMB151 treated with conventional herbicides, and one plot of GM soybean GMB151 treated with a single pre-emergence application of the complementary herbicide isoxaflutole in addition to conventional herbicides. Basic data on climatic conditions, soil type, crop histories, planting dates and conditions and the use of maintenance chemicals are provided to characterise the test sites (Report 17-RSSB0044). We appreciate that two figures depicting the trial sites distribution with respect to soil texture, temperature and rainfall (Figure 1.3.2 and 1.3.3) have been provided as well as a map showing the field trials sites in the US (Figure 1.3.1). We note that EFSA raised questions with respect to the selection of field trial sites (Supplementary Information, questions 2 & 3). In his response the notifier provided additional information regarding the diversity of field sites (e.g. maturity groups, irrigation), but in our view failed to provide a clear justification for his selection of test sites. According to available guidance by EFSA (EFSA 2010; EFSA 2015) and Implementing Regulation (EU) No. 503/2013 (EC 2013) not only a justification shall be provided to demonstrate that the trial sites and conditions are representative of the range of receiving environments, where the crop will be commercially grown, but also an explicit justification of the choice of sites by the notifier (EFSA 2010). Thus, we request that the notifier	The GMO Panel thanks Austria for the summary. The GMO panel requested to the applicant additional information (clock 1) to justify the selection of the eight sites used for the compositional analysis out of the eleven selected for the agronomic and phenotypic analysis. The applicant provided a reply on 12/04/2019 explicitly justifying that the eights sites used for the compositional analysis were selected to represent a broad geographical distribution capturing a range of agro-climatological conditions as well as different crop management systems. The GMO Panel considers that the

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				provides further information concerning the rationale for his selection of trial sites. It should also be noted that the notifier argues, "Eight sites were selected based on successful production of sample material, wide geographical site distribution, diversity, and representativeness of field trial management. Replication for all sampling was accomplished through the RCBD with four plots from each entry." The notifier provides no data illustrating that three of the eleven sites were unsuccessful, lack diversity, or are not representative of field trial management. Therefore, as from the presented information there is no reason to exclude three complete field trial datasets from comparative assessment. [EC, 2013. Commission Implementing Regulation (EU) No 503/2013 of 3 April 2013 on applications for authorisation of genetically modified food and feed in accordance with Regulation (EC) No 1829/2003 of the European Parliament and of the Council and amending Commission Regulations (EC) No 641/2004 and (EC) No 1981/2006. Official Journal of the European Union. L 157/1: 1-48. EFSA, 2010. Guidance of the GMO Panel on the environmental risk assessment of genetically modified plants. The EFSA Journal 8(11):1879: 1-111. EFSA, 2015. Guidance on the agronomic and phenotypic characterisation of genetically modified plants. The EFSA Journal 13(6):4128: 1-44.]	selected sites, including the subset chosen for the compositional analysis, reflect commercial soybean-growing regions in which the test materials are likely to be grown.

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.3.4 Comparative analysis of composition	AUT Comment_05	The notifier conducted a quite comprehensive compositional assessment, which comprised numerous endogenous allergens and specific metabolites of the tyrosine pathway (report 17-RSSB0044), the pathway targeted by HPPD-herbicides. For some of the assessed parameters (e.g. palmitic acid, heptadecenoic acid, trypsin inhibitor, vitamin A) significant differences and non-equivalences were found and an assessment of genotype-by-site interaction was conducted. However, the discussion is only focused on the individual parameters and not conducted with a view to potential unintended changes in metabolic pathways. In addition, the scope of the comparative analysis concerning food and feed risk assessment conducted by the notifier for GM soybean GMB151 is considered too narrow regarding several aspects: • Although GM soybean GMB151 is intended to be used in combination with complementary herbicides of the class of HPPD-inhibitors, the assessment does neither include residual levels of the applied isoxaflutole herbicide nor residual levels of metabolites of the respective herbicide formulation. • Furthermore, data should be provided to assess whether accumulation of herbicide residues and metabolites occurs in GM soybean GMB151 and whether unacceptable levels of such residues and metabolites may be contained in the GM products imported in the EU. Therefore the notifier should be requested to demonstrate that the MRLs established in the EU for the respective herbicides in soybeans imported from third countries (currently set at 0.02 mg/kg) are not exceeded in soybeans from GM soybean GMB151 (EC 2016). For the reasons listed above the presence of residual levels of the herbicide as well as residual metabolites of the complementary herbicide should be determined in soybeans harvested from GM soybean GMB151. The consequences of these findings for the conclusions of the assessment of cumulative effects on human and animal health should be considered by the applicant, specifically as regards sub-chronic, developmental and reproductive toxicity. As the authorisation for the active substance isoxaflutole for example was recently renewed by Implementing Regulation (EU) 2019/717 (EC 2019) until 2034 we consider it important that the assessments provided by the notifier are representative of commercial cultivation conditions,. The notifier should clarify, whether for example the treatment regime used in the field trials corresponds to a worst-case exposure scenario or a scenario	The potential impact on plant metabolism was among the criteria used by the GMO Panel to assess the significant differences observed between the soybean GMB151 and the conventional counterpart. None of the identified differences in agronomic/phenotypic and compositional characteristics between soybean GMB151 and its conventional counterpart needed further assessment, except for palmitic acid and heptadecenoic acid in seeds and carbohydrate and crude protein in forage, which did not raise nutritional and safety concerns. The GMO Panel was able to conclude based on the comparative analysis of the soybean GMB151. The assessment of herbicide residues and metabolites is not in the remit of the GMO Panel. EFSA thanks Austria for the comment. The GMO Panel requested clarification (Clock 3) and the applicant provided additional information on the 20/8/2019. The EFSA Panel consider the information adequate to conclude on the representativeness of the applied dose and timing of the isoxaflutole based herbicide (Balance Pro).

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				which is representative of current conditions. [EC, 2016. EU Pesticides database; http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=activesubstance.selection&language=EN ; (last accessed: 20/05/2019). EC, 2019. Commission Implementing Regulation (EU) 2019/717 of 8 May 2019 renewing the approval of the active substance isoxaflutole in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Commission Implementing Regulation (EU) No 540/2011. L122: 44-48.]	

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.3.4 Comparative analysis of composition	AUT Comment_06	Statistical significant differences Field trials for comparative assessment of GM soybean GMB151 were carried out in the United States in 2017. The number of field trial locations used in the statistical analysis was eight. The eight field trials included the following entries: • GM soybean GMB151 with conventional herbicide management (test CHM) • GM soybean GMB151 treated with isoxaflutole, the trait intended herbicide (test TIH) • non-GM conventional counterpart, variety Thorne (with conventional herbicide management) • nine reference commercial soybean varieties In the compositional analysis a total of 112 analytes were measured. Also, 27 samples were below the limit of quantification and 23 of these were excluded from the analysis (Report 17-RSSB0044, p. 62). Finally, 80 analytes in grain and 9 in forage of GM soybean GMB151 were evaluated and subject to a statistical difference test and equivalence test. Test CHM: 89 analytes were statistically tested in grain and forage in the test CHM entry. 33 were found to be statistically significantly different between the GMO and its conventional counterpart (control CHM) (= 37%). Test TIH: 89 analytes also were statistically tested in grain and forage in the test TIH entry. 34 were found to be statistically significantly different between the GMO and its conventional counterpart (control CHM) (= 38%). The notifier makes a general statement that statistically significant differences were of no biological relevance when equivalence was demonstrated between the GMO and the reference varieties. However, this statement should be complemented by a discussion including the statistical parameters (e.g. standard variation, least significant difference). In addition, site-specific effects with respect to Type 2, 4 analytes ("significant difference between GMO and conventional counterpart likely") are to be scrutinised. Providing a more detailed analysis of significant different analytes is even more important for increased allergen Gly m 5 levels that were observed in GM soybean GMB151 in comparison with the conventional counterpart. Elevated levels in GM soybean GMB151 for anti-nutrients phytic acid and trypsin inhibitor were also observed. The analyte phytic acid is	The GMO Panel thanks Austria for this summary. The GMO Panel assessed all the significant differences between the GM soybean GMB151 and the non-GM comparator, taking into account potential impact on plant metabolism and the natural variability observed for the set of non-GM reference varieties. The GMO Panel concluded that none of the differences required further assessment for food/feed safety, except for few endpoints. These endpoints were: palmitic acid (C16:0) and heptadecenoic acid (C17:1) in seeds (not treated), and carbohydrate and crude protein in forage (not treated), which were further assessed regarding food and feed safety

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				statistically significant higher in the GM line as compared to the conventional counterpart. These results were observed in both treatment groups (CHM, TIH). The descriptive statistics shows for „test CHM" a p-value of 0.062 and for „test TIH" even a p-value of 0.001 (c.f. Report 17 RSSB0044, Appendix 7). In forage, the analytes carbohydrates and crude protein were statistically significantly different between CHM entry and conventional counterpart. The differences were considered to be of no biological relevance. This assumption is based on findings that the equivalence test was not valid due to estimated genotypic variance of zero for references varieties. In this case, the problem occurs that equivalence intervals cannot be calculated. It is thus not possible to conclude that the values are within the natural variation found in reference varieties. In this case, EFSA recommends the following, "When the natural variation is very small or zero, and the calculated equivalence limits are considered by experts to have little practical relevance, external data may be used to establish new equivalence limits" (EFSA 2010, Chapter 6.1). In the Scientific Information, it is further argued by the notifier that "mean values for carbohydrates, crude fat, and crude protein were within the range of the reference varieties". It is unclear if the notifier has taken into account that ranges are highly influenced by extreme values and may not be suitable comparators for any reliable assessment of established equivalence. However, particular attention should be paid to the fact that the significant differences in proximate levels between the GM soybean and its conventional counterpart are indicative of unintended effects that resulted from the genetic modification. It is also important that these unintended effects are not caused by application of trait intended herbicide (isoxaflutole) - due to the fact that in test TIH group no significantly different carbohydrates and protein levels were observed. [EFSA, 2010. Scientific opinion of the GMO Panel on statistical considerations for the safety evaluation of GMOs. The EFSA Journal 8(1):1250: 1-59.]	

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.3.5 Comparative analysis of agronomic and phenotypic characteristics	AUT Comment_07	Conclusions for the phenotypic evaluation and environmental interactions of GMB151 in Scientific Information, pp. 98-102 are based on Study Report 17-RSSB0044: Trial design, number of test sites, test substances and number of reference varieties are in accordance with EFSA guidelines. The map showing the distribution of the trial sites in front of the cropping area of the soybean is laudable. Choice of reference varieties and trial sites are justified. However, the applicant is requested to explain why only reference varieties with earlier maturity than GMB151 or its conventional counterpart have been included in the field trials (p24). Single plot data are reported. In site 09, plots such as E3 (=variety E in rep 3), L4 or N4 show comparably very low figures for early and late stand counts, for yield and partly also for soil coverage. Such deviations contribute to larger error variances. Why have these data not been excluded from the analyses? The final conclusion concerning non-difference and equivalence of soybean GMB151 with the conventional counterpart and reference varieties in the comparative analysis of agronomic and phenotypic is to be reflected regarding the requested information above.	The selected field trials are located between maturity zone II-IV and the selected reference varieties ranges between maturity group 2.2 to 3.4 that is adequate for the selected areas. The GMO Panel consider the selected reference varieties adequate and representative, as well the GM the conventional counterpart. The applicant carried out an outlier analysis for all the endpoints included in the comparative analysis of composition and agronomic/phenotypic characteristics. No outliers were identified for any of the agronomic/phenotypic endpoints; this was confirmed as part of a validation check by an external EFSA contractor.
Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.4.1 Testing of newly expressed proteins	AUT Comment_08	The notifier provides the Study Report M-556693-01-1 presenting data and results of a 28-day repeated-dose toxicity study in CD1 mice. The test group (10 male, 10 female animals) received the Cry14Ab1 protein at a target dose of 1000 mg/kg/day and the control group received the vehicle alone. The following statistical significances were observed in the test group: • In females, higher absolute neutrophil counts ($p \leq 0.01$). (Additionally, higher total leucocytes and lymphocyte counts were observed.) • In males, higher mean urea levels ($p \leq 0.05$) • In males, higher mean absolute adrenal gland weight (g) ($p \leq 0.05$) • In males, higher mean adrenal gland-to-bodyweight ratio (%) ($p \leq 0.05$) • In males, higher mean absolute kidney weight (g) ($p \leq 0.05$) • In males, higher mean kidney-to-bodyweight ratio (%) ($p \leq 0.05$) • In males, higher mean absolute heart weight (g) ($p \leq 0.05$)	The GMO Panel thanks Austria for the comments. All statistically significant findings have been assessed and considered not adverse. See Appendix 1, Table 1 and 2 of the Scientific Opinion for details. Kidney histopathological findings were scrutinised and found to be the expression of background pathology of mice of this strain and age; variations in the incidence of these finding across groups is considered incidental.

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				• In females, lower mean absolute brain weight (g) ($p \leq 0.05$) • In females, lower mean brain-to-bodyweight ratio (%) ($p \leq 0.05$) In the Report M-556693-01-1 under Chapter "Results and Discussion", the significant differences are discussed and further investigated. However, the significant differences observed for endpoints "heart weight", "brain weight" and "brain-to-bodyweight" are not addressed in this Chapter. We think that a discussion and deeper analysis with respect to those differences is needed, and therefore should be provided subsequently. It is also noteworthy that the observed significantly higher absolute neutrophil counts (females), mean urea levels (males) and higher kidney-to-bodyweight ratio (males) were outside the historical control data ranges: The notifier explains that "the historical control data used are from studies without any dietary fasting period before necropsy" but that "in the current study, mice were diet fasted overnight before necropsy which is known to induce dehydration and change in clinical pathology parameters." It would be appreciated if the notifier provided details on potential changes caused by dietary fasting and discusses the appropriateness of the historical control data used as baseline in the current study. The notifier also argues with respect to the significant differences (kidney-to-bodyweight ratio, urea concentration) that "these differences in organ weight parameters were not associated with any gross or histopathology findings" and "without any evidence of renal effect at the histopathological examination." Nonetheless, the individual microscopic observations reveal a number of incidences in kidney tissues of males (c.f. Study Report M-556693-01-1, p. 193 ff., p. 279). The notifier should provide a more detailed analysis of these findings.	

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.1.5 Allergenicity	AUT Comment_09	The notifier declares, "The Cry14Ab-1 and HPPD-4 proteins are highly similar to proteins already present in food and have a history of safe use. In addition, the exposure to these proteins is expected to be very low, given the levels of the newly expressed protein detected in GMB151 soybean processed fractions." We point out that both proteins do not have a history of safe consumption. Furthermore, the Study Report M 556693-01-1 reveals some inconsistencies that need to be resolved by the notifier (see Comment under Chapter 4.2). The notifier also should be aware that the exposure assessment covers respiratory allergy risks as well. This needs to be taken into account when pointing to low protein levels in processed food products derived from GM soybean GMB151.	The EFSA GMO Panel considered the information provided by the applicant as well as information available in the literature relevant for this application. The assessment of this information was performed following the applicable EFSA GMO Panel guidance documents and Regulation 503/2013. In the context of this application, the GMO Panel considers that there are no indications that the newly expressed Cry14Ab-1 and/or HPPD-4 proteins in soybean GMB151 may be allergenic.

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.5.3.1 Persistence and invasiveness including plant-to-plant gene flow	AUT Comment_10	Study Report 18-RSVLS004 - GMB Soybean Seed germination potential Materials and methods: • 2.1 Test design is very poor, just the test substance GMB151 Soybean and its Non-GM Counterpart were included in the study. No other conventional reference varieties were included! • 2.2 Test System: It is NOT described where the seed came from (original seed production location is missing). Was the GM-soybean grown on the same site and under equal climatic and weather conditions than the seed lot of the Non-GM counterpart? Were there any possible influences on germination? • 2.4 Seed Incubation Setup: Sterilisation of seed is not usual according to ISTA methods. But remarks on the subject "pure seed" according to ISTA are missing. • 2.5 Warm Germination Test: This test design is conform to ISTA methods, but the accepted temperature tolerance of +/- 5°C is clearly NOT conform (ISTA: +/- 2 °C). • 2.6 Cold Germination Test: Is not used within ISTA testing system. The test design covers just 4 x 50 seeds (only half of the seeds tested in the warm germination test). Regarding Table 4 (descriptive statistics of the percentages for different germination categories in the cold germination test), the cold germination test of the conventional counterpart would not be valid because of the broad range of 22% between minimum and maximum of the four replicates. The test should have been carried out once again. In general, test design is not sufficient (reference varieties, number of seeds etc.).	EFSA thanks Austria for the comment. The EFSA Panel requested further information (Clock 1) and additional information were received on the 12/4/2019. The EFSA GMO Panel reminds that the applicant is not requested to test the seed germination of the conventional reference varieties. The information provided were considered adequate to conclude on the quality of the starting materials that guarantee the reliability comparative dataset.
Austria	Fed.Ministry_Labour/Soc.A/Health	II.6 Post-Market Environmental Monitoring Plan (PMEM)	AUT Comment_11	The monitoring plan presented is very general and basically identical to monitoring plans for other GM soybean products submitted previously. Previous recommendations and suggestions for improvements submitted by Austria - based on issues discussed in the scientific literature, in scientific reports of competent authorities from various member states (see e.g. Züghart et al. 2011) or derived from the review of monitoring approaches for other GM products, e.g. GM maize line MON810 by EFSA (e.g. EFSA 2011b; EFSA 2012; EFSA 2013) - were not taken into account. In particular, the notifier does not specifically consider the potential exposure of EU environments to GM soybean GMB151 other than by unintended release of substantial volumes of viable GM soybeans via losses during loading or unloading for	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. No greater environmental risks as the comparator, no knowledge gaps or significant uncertainties were identified in the environmental risk assessment. Therefore, no case specific monitoring is required.

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				processing into animal feed or human food products. This is in contrast to the ERA, which includes indirect exposure pathways resulting from the use of the soybean GMB151 (Scientific Information, p. 192). Consequently exposure via waste materials from processing or use should particularly be considered in accordance with current EFSA guidance (EFSA 2011a). Since all exposure pathways should be taken into account in the monitoring plan, we consider the monitoring plan at hands to be insufficient to address the potential environmental effects of GM soybean GMB151. In our view, the monitoring plan at hand does not ensure that relevant information for the monitoring of the product is gathered and therefore cannot be considered adequate, but needs to be improved. [EFSA, 2011a. Guidance of the GMO Panel on the Post-Market Environmental Monitoring (PMEM) of genetically modified plants. The EFSA Journal 9(8):2316: 1-40. EFSA, 2011b. Scientific Opinion of the GMO Panel on the annual Post-Market Environmental Monitoring (PMEM) report from Monsanto Europe S.A. on the cultivation of genetically modified maize MON810 in 2009. The EFSA Journal 9(10):2376: 1-66. EFSA, 2012. Scientific Opinion of the GMO Panel on the annual Post-Market Environmental Monitoring (PMEM) report from Monsanto Europe S.A. on the cultivation of genetically modified maize MON 810 in 2010. The EFSA Journal 10(4):2610: 1-35. EFSA, 2013. Scientific Opinion of the GMO Panel on the annual Post-Market Environmental Monitoring (PMEM) report from Monsanto Europe S.A. on the cultivation of genetically modified maize MON 810 in 2011. The EFSA Journal 11(12):3500: 1-38. Züghart W, Raps A, Wust-Saucy A-G, Dolezel M, Eckerstorfer M, 2011. Monitoring of genetically modified organisms. A policy paper representing the view of the National Environment Agencies in Austria and Switzerland and the Federal Agency for Nature Conservation in Germany. Umweltbundesamt Wien, Reports, Volume 0305, ISBN: 978-3-99004-107-9; http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=1903.]	

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Austria	Fed.Ministry_Labour/Soc.A/Health	II.6.3 General Surveillance (strategy, method)	AUT Comment_12	The basis for the ERA presented by the notifier is associated with a number of shortcomings (see comments to sections 1.2, 1.3 and 1.4) and thus uncertainties remain regarding the environmental risk associated with GM soybean GMB151. The proposed general surveillance for unanticipated adverse is not sufficiently elaborated and should be amended regarding the following elements: • Elaboration of a detailed monitoring methodology (e.g. parameters, specific information). • Identification of existing national institutions and operators involved in GS in individual Member States and evidence for their commitment to GS activities. • Assignment of clear responsibilities and concrete tasks to each party involved. • Verification of the skills and expertise of the parties involved which are required for the detection of potential adverse environmental impacts. • Taking into account all potential routes of exposure under commercial use, a fundamental requirement of the EU-approach to monitoring (EFSA 2011). (Involvement of operators further down the food and feed chain, e.g. veterinary networks). • Specification of the specific measures based on HACCP principles in order to verify whether they match with the requirements of environmental monitoring. • More specific data on transport and handling of GM soybeans (e.g. actual import volumes, transport routes, processing plants, amounts used for feed) in order to provide a basis for the development and implementation of national monitoring concepts. [EFSA, 2011. Guidance of the GMO Panel on the Post-Market Environmental Monitoring (PMEM) of genetically modified plants. The EFSA Journal 9(8):2316: 1-40.]	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. The GMO Panel considers that the PMEM plan proposed by the applicant is in line with the scope of the application. The GMO Panel agrees with the reporting intervals proposed by the applicant in its PMEM plan.

Country	Organization	Reference	Topic	Comment	
Austria	Fed.Ministry_Labour/Soc.A/Health	II.7 Additional information related to the safety of the genetically modified food or feed	AUT Comment_13	Although not mentioned in the table of contents the Scientific Information includes Chapter 7, which refers to a broad literature review (Report TXVLS001). The review covers database entries for a period of 10 years prior to the date of submission of the dossier, additional information sources (e.g. websites of national authorities) and screening of reference lists of recent review articles. Although we appreciate that a literature review was conducted by the notifier, we ask EFSA to request that a list of the identified studies is provided in the respective report. Otherwise the conclusion by the notifier based on a screening of titles and abstracts that all retrieved studies are not relevant cannot be verified.	The literature search was performed following the recommendations of the EFSA explanatory note on literature searching (EFSA, 2017). The note requests applicants to provide a list of the bibliographic references for (1) all relevant publications, ordered by category of information/data requirement; (2) all excluded publications after detailed assessment of full-text documents for relevance, with justification for their exclusion; (3) all unobtainable publications, recorded using Table 5, with explanation why they could not be obtained; and (4) for all unclear publications, recorded using Table 6, with explanation why they could not be classified. Applicants are not required to provide a full list of all retrieved publications. In any case, the search terms and the relevance criteria were reported in a transparent manner to ensure the reproducibility of the search.

Country	Organization	Reference	Topic	Comment	
Belgium	Biosafety Advisory Council	II.1.2.2 Information relating to the genetically modified plant	Comments AP153	1- Analysis of the insertion locus indicates that the insertion of T-DNA sequences in the GMB151 soybean is located in the 3' untranslated region of a putative endogenous gene annotated as a BON1-associated protein 1-like protein (BAP1, main text page 46 and report 18-RSVLS011). This gene seems to encode a protein involved in a signal transduction cascade. The quoted reference Yang et al. 2006 seems to be missing in the dossier and should have been provided. After retrieving this reference from the Scopus database, it becomes evident that, despite the fact that the BAP1 protein seems to be encoded by a multigene family, a single mutation in the BAP1 gene causes phenotypes in Arabidopsis which are related to programmed cell death and disease resistance. In the case of the GMB151 soybean, it remains unclear whether insertion in the 3' untranslated region as shown in the dossier is expected to alter the expression of the gene. The applicant should have discussed this point based on the bioinformatic data and should have commented on the possible effects on the GMB151 soybean which might be relevant from a risk assessment point of view. 2- When searching the new ORFs for allergen similarities the following conclusions are given (main text page 47): the 80-mer sliding window search identified one 80-mer from GMB151_ORF.572 having low identity of 35.4%, with a very high E-value of 99, with a 77 amino acid stretch of Asp f 22 enolase from Aspergillus fumigatus. This match was just above the conservative threshold of >35 homology with E-value of ≤100. A sequence identity of more than 50% between homologous allergens has been reported to be necessary in order to exhibit cross-reactivity. This last statement (the '50 % identity' issue) is not supported by references, and we are not aware of such a criterion in EFSA / FAO guidance documents. It is also unclear in the absence of indication of the length over which the identity should be calculated. Could the applicant justify this quite general statement? Nevertheless, when applying the criteria used by EFSA, considering the high E-value of this alignment and the further arguments presented by the applicant, we see no safety concern, but a methodological concern.	1-Please see Section 3.2.2 of the GMO Panel opinion: The GMO Panel assessed all the information provided by the applicant on the potential gene interruption. These analyses indicate that the insertion of the T-DNA in the 3'UTR of the predicted gene for BON1-associated protein 1-like protein does not lead to unintended effects in soybean GMB151; this is also confirmed by compositional, agronomic and phenotypic characteristics. The GMO Panel during assessment of the potential endogenous gene interruption considered data on the BAP1 gene from available published studies (Yang et al 2006– The plant Journal 48: 238-248, and Yang et al. 2007- Plant Physiol. 145(1):135-46) demonstrating that in Arabidopsis, interruption of BAP1 gene (encoding BON1-associated protein 1) leads to constitutively active defence response and results in a dwarf phenotype (Yang H et al, 2007) that has not been observed in soybean GMB151. 2- In relation to the comment on sequence similarity with an allergen from *Aspergillus fumigatus*, the EFSA GMO Panel assessed the relevance of this sequence similarity analysis in relation to its implications on safety. Please see Sections 3.2.2 and 3.4.4.1 of the Scientific Opinion on application EFSA-GMO-NL-2018-153.

Application EFSA-GMO-NL-2018-153 (soybean GMB151)

Comments and opinions submitted by Member States during the three-months consultation period

Country	Organization	Reference	Topic	Comment	
Belgium	Biosafety Advisory Council	II.1.3.7 Conclusion	Comments AP153 2	We agree with the conclusions of the applicant that the comparative assessment of GMB151 soybean, the conventional counterpart, and the non-GM reference varieties showed no differences that would require further assessment with respect to their possible impact on food and feed safety and nutritional properties. Hence no clear hypothesis for further testing can be formulated. We therefore consider that further testing of the whole food/feed (i.e. 90-day feeding trial) is not needed.	The GMO Panel acknowledges Belgium comment.
Belgium	Biosafety Advisory Council	II.1.5.1 Assessment of allergenicity of the newly expressed protein	Comments AP153 3	The same remark as in section 1.2.2 before, on the allergenicity assessment of Cry14AB-1, is valid here (cfr page 149 on main dossier, where the same bioinformatic criteria are indicated).	In relation to the comment on sequence similarity with an allergen from *Aspergillus fumigatus*, the EFSA GMO Panel assessed the relevance of this sequence similarity analysis in relation to its implications on safety. Please see Section 3.4.4.1 of the Scientific Opinion on application EFSA-GMO-NL-2018-153
Belgium	Biosafety Advisory Council	II.1.5.3 Conclusion of the allergenicity assessment	Comments AP153 4	The same remark as in section 1.2.2 before, on the allergenicity assessment of Cry14AB-1, impacts the general conclusions.	In relation to the comment on sequence similarity with an allergen from *Aspergillus fumigatus*, the EFSA GMO Panel assessed the relevance of this sequence similarity analysis in relation to its implications on safety. Please see Section 3.4.4.1 of the Scientific Opinion on application EFSA-GMO-NL-2018-153
Belgium	Biosafety Advisory Council	II.5.3.2 Plant to micro-organisms gene transfer	Comments AP153 5	The report M-618502-01 detailing the HGT analysis concludes: "Although the cry14Ab-1.b gene originates from Bacillus thuringiensis and the hppdPf-4Pa gene originates from Pseudomonas fluorescens, no hits were obtained in the BLASTN searches. This is due to the fact that the nucleotide sequences of the cry14Ab-1.b and the hppdPf-4Pa genes were changed, thereby significantly reducing the % identity of these genes to their native sequences". However, both the cry14Ab-1.b and hppdPf-4P genes were amplified from bacterial DNA and the dossier provides no indication of re-synthesis with codon optimisation which would significantly alter the nucleotide sequences. The "changes" mentioned by the applicant seem thus minor and the similarity search between the inserted sequences and bacterial sequences in the databases should have spotted these two genes of bacterial origin. The applicant should provide a more convincing explanation for the absence of hits in this bioinformatic analysis, e.g. by providing the percentages of similarity between the native and changed sequences as inserted in the plant. Indeed the absence of these hits allows to question the validity of the bioinformatic searches.	EFSA thanks Belgium for this comment. The updated bioinformatic analysis provided by the applicant (20-RSSB0432-EU) identified thousands of hits that were filtered in accordance with EFSA (2017). No hits exceeding the threshold (200bp >95%) were identified. The EFSA GMO Panel concluded that there is no indication for an increased likelihood of horizontal transfer of DNA from soybean GMB151 to bacteria. Given the nature of the recombinant DNA, the GMO Panel identified no safety concern linked to an unlikely but theoretically possible HGT.

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.1 Hazard identification and characterisation	BfN Comment 1	Additional comments by the Federal Agency for Nature Conservation: The Federal Agency for Nature Conservation (BfN) considers that further information is required before the risk assessment of EFSA/GMO/NL/2018/153 can be finalised. Information and data provided on the introduced traits, on comparative assessment and toxicology is insufficient and conclusions of equivalence of GMB151 soybean, the GMO, and conventional soybean and on food and feed safety based on this information are premature. In addition, the present monitoring plan does not comply with Directive 2001/18/EC and thus needs to be amended.	Based on the outcome of the studies considered in the comparative analysis and toxicology, the GMO Panel concluded that soybean GMB151 is as safe and nutritious as the conventional counterpart and the non- GM soybean reference varieties tested. Since no substantial modifications in the composition of soybean GMB151 and no indication of possible unintended effects relevant for food and feed and environmental safety were identified, additional data are considered not necessary. Monitoring is related to risk management, and thus a final adoption of the post-market environmental monitoring plan falls outside the mandate of EFSA.
Germany	BfN	II.1.2.2 Information relating to the genetically modified plant	BfN Comment 2	Additional comments by the Federal Agency for Nature Conservation: In terms of the introduced traits the following information is missing: I. Information and data on how resistant GMB151 soybean is towards isoxaflutole. This information is requested to relate the amount of complementary herbicide used in studies (cf. II.1.3.2 and II.1.4.4) to the characteristics of the introduced trait. II. Information and data on whether GMB151 soybean and the HPPD-4 protein are resistant to chemical families of HPPD inhibitors other than isoxaflutole. The scope of the application is not restricted to GMB151 soybean treated with isoxaflutole as sole HPPD inhibitor. From CBI: The insert in GMB151 soybean is located in the 3`-UTR of a predicted gene coding for the "BON1-associated protein 1-like" as identified via BLAST analyses against genomic reference sequences as well as a EST-DB (expressed sequence tag database). The gene is expressed at least in callus grown in the dark and its orthologue in Arabidopsis thaliana is annotated with the function "Negative regulator of cell death and defense responses. Exhibits calcium-dependent phospholipid binding properties" according to https://www.uniprot.org/uniprot/Q941L2 (Yang et al. 2006; Yang et al. 2007). Even though no change in phenotype was connected with the genetic modification in GMB151 soybean in the performed trials, certain conditions could trigger adverse effects due to interaction between insert and native genes in the GMO e.g. leading to higher susceptibility against plant pathogens. Therefore, we propose to analyse differential expression of the potentially affected endogenous gene under controlled conditions that seem likely to trigger expression such	I. Soybean GMB151 showed to be tolerant to an amount of isoxaflutole that is in line with the specifications provided by the manufacturer (Balance® Pro herbicide). Soybean GMB151 tolerates amounts of the complementary herbicides that makes the trait suitable for the its use under good agricultural practices. II. Herbicidal inhibitors of HPPD are competitive inhibitors and form a tight complex with the enzyme (Siehl et al., 2014). In particular, the HPPD enzyme requires an α-keto acid and molecular oxygen to oxidize or oxygenate a third molecule. The activity of HPPD is suppressed by benzoylisoxazoles bleaching herbicides such as isoxaflutole (IFT) and by β-triketones such as mesotrione (Pallett et al., 2001; Dayan et al., 2007). The GMO Panel considered that, independently of the specific HPPD inhibitor applied, the same biochemical pathway will be targeted: therefore, the use of IFT was considered adequate. Please see Section 3.2.2 of the opinion. The GMO Panel assessed the information provided by the applicant on the potential interruption of the 3' untranslated region of a putative endogenous gene annotated as a BON1-associated protein 1-like protein. Overall, the analyses indicate that the insertion of the T-DNA in the 3'UTR of the predicted gene for BON1-associated protein 1-like protein does not lead to unintended effects in soybean GMB151; this is also confirmed by compositional, agronomic and phenotypic characteristics.

Country	Organization	Reference	Topic	Comment	
				as infestation with virulent microbial pathogens (Yang et al. 2006) or dark adaptation (EST-DB) in non-GM soy as well as in GMB151 soybean. In case of different expression patterns in GMB151 soybean and the control a functional analysis of the affected gene should be conducted to be able to assess adverse effects in the GMO. References: Yang, H., Li, Y., Hua, J. (2006). The C2 domain protein BAP1 negatively regulates defense responses in Arabidopsis. Plant J. 48(2):238-48 doi: 10.1111/j.1365-313X.2006.02869.x Yang, H., Yang, S., Li, Y., Hua, J. (2007). The Arabidopsis BAP1 and BAP2 Genes Are General Inhibitors of Programmed Cell Death. Plant Physiol. 145(1):135-46 doi: 10.1104/pp.107.100800	

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.1.3.2 Experimental design and statistical analysis of data from field trials for comparative analysis	BfN Comment 3	Additional comments by the Federal Agency for Nature Conservation: Field trials for comparative analysis including agronomic and compositional analyses were completed at eleven locations in the USA in 2017. At each site, four replicated plots of the GMO, treated with conventional herbicides or the complementary herbicide, a conventional soybean variety with a high genetic similarity to the GMO, and three out of a pool of nine non-GM references were planted using a randomized complete block design. The agronomic, compositional and expression analyses are based on eleven, eight and three sites, respectively. I. According to the applicant the field trial sites were representative of the major soybean growing areas in the USA. Further explanation is missing whether locations are representative of the range of likely receiving environments where the crop is to be grown (Regulation (EU) No 503/2013); e.g. other applications for GM soybean in the EU considered sites in the North (Minnesota, Wisconsin, Michigan), the East (North Carolina, South Carolina), the South (Louisiana, Mississippi, Texas) and the South East (Florida, Georgia). II. A justification is missing for the applied amount of isoxaflutole, i.e. at around 70 g ai/ha which should be trait specific and related to (i) maximum dose for soybean and (ii) the strength of resistance in GMB151 which is missing as well (cf. II.1.2.2). III. HPPD inhibitor of families other than isoxaflutole were not considered (cf. II.1.2.2 and II1.4.1). IV. The purity of starting material was not sufficiently tested, GMB151 and the control variety were analysed for the presence/absence of GMB151, but not for contamination with other GM soybean varieties. The reference varieties were not tested for purity at all. The experimental design of field trials should be devoid of the above listed deficits. We recommend including data from field experiments from several years for the analysis to include climatic variation between years.	The GMO panel thanks Germany for the summary I. For the compositional and agronomic/phenotypic characterisation the applicant selected field trial sites located in major soybean producing areas of the US, and each of these sites reflect different meteorological and agronomic conditions under which the crop is to be grown. This was documented in the field production data provided by the applicant, including information on the meteorological and agronomic conditions. Additional information on site representativeness has been requested by EFSA (clock 1) and answered by the applicant on 12/4/2019. The EFSA GMO Panel considered that the meteorological variability at the sites selected for the compositional and agronomic/phenotypic characterisation of application EFSA-GMO-NL-2018-153 are able to ensure a sufficient range of environmental conditions reflecting those under which GMB151 soybean might be cultivated in practice. II. The GMO Panel requested clarification (Clock 3) and the applicant provided additional information on the 20/8/2019. The EFSA Panel consider the information adequate to conclude on the representativeness of the applied dose and timing of the isoxaflutole based herbicide (Balance Pro). III. Herbicidal inhibitors of HPPD are competitive inhibitors and form a tight complex with the enzyme (Siehl et al., 2014). In particular, the HPPD enzyme requires an α-keto acid and molecular oxygen to oxidize or oxygenate a third molecule. The activity of HPPD is suppressed by benzoylisoxazoles bleaching herbicides such as isoxaflutole (IFT) and by β-triketones such as mesotrione (Pallett et al., 2001; Dayan et al., 2007). The GMO Panel considered that, independently of the specific HPPD inhibitor applied, the same biochemical pathway will be targeted: therefore, the use of IFT was considered adequate. IV. The single event soybean GMB151 and its control were verified by PCR for purity. The EFSA GMO Panel considered the information adequate to conclude on the quality of the starting material. EFSA does not consider needed to verify purity of commercial reference varieties.

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.1.3.3 Selection of material and compounds for analysis	BfN Comment 4	Additional comments by the Federal Agency for Nature Conservation: In plants HPPD and the modified HPPD-4 protein are involved in anabolic reactions, i.e. the biosynthesis of α-tocopherol and plastoquinone. We recommend considering also the latter for compositional analysis of GMB151.	The GMO Panel thanks Germany for this comment.
Germany	BfN	II.1.4.1 Testing of newly expressed proteins	BfN Comment 5	Additional comments by the Federal Agency for Nature Conservation: Herbicide resistance conferred by modified HPPD proteins is a fairly new trait of GMO. As part of a general description information is missing on I. whether the modified protein HPPD-4 is resistant to chemical families of HPPD inhibitors other than isoxaflutole (cf. II.1.2.2); II. how the specific activity of HPPD-4 in GMB151 relates to specific activities of wild type HPPD proteins in plants; III. whether the HPPD-4 batches purified from E. coli and from GHB151 soybean were fully active, considering that their specific activities (1.88E-02 nmol/min/µg protein and 2.77E-02 nmol/min/µg protein, respectively) were about 15 to 20 times less compared to activities for HPPD W336 from E. coli and HPPD from P. fluoresecens (0.43 and 0.41 µmol/min/mg protein, respectively), (Report N°: BIO2-026_Express.prot_310 Habex 2009, application EFSA-98 for FG72 soybean with isoxaflutol resistance. References: Habex 2009 Report N°: BIO2-026_Express.prot_310. The modified 4-hydroxyphenylpyruvate dioxygenase gene product (HPPD W336) description and characterization, Bayer CropScience N.V., BioScience, Gent, Belgium, 12 pages, M359562-02	Soybean GMB151 was developed to confer tolerance to HPPD inhibitor herbicides such as isoxaflutole. Data using purified microbial HPPD (wild type and 4-aa mutant) protein to test a number of compounds in addition to 4-HPP (intended substrate) that could be substrates of this enzyme and potentially present in plants. Objective was to test if the 4 aa mutant could impact substrate specificity. Results of the study showed that none of them was indicated to be a substrate although some catalysis was observed at a slow rate and with high protein amount for 3,4-dHPP. Results are similar to the HPPD W336 protein assessed in other applications. Potential substrates were chosen based on a literature review. A number of compounds that could be substrates of this enzyme and potentially present in plants in addition to the intended substrate were tested. Although some catalysis was observed at a slow rate and with high protein amount for 3,4-dHPP, none of the compounds is likely to be a genuine in vivo substrate. A literature review on potential alternative substrates for HPPD is provided in Report No: BIO2-026_ProtDescript_500.

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.1.4.4 Testing of the whole genetically modified food or feed	BfN Comment 6	Additional comments by the Federal Agency for Nature Conservation: A 90-day feeding study in rats was conducted with a single test dose of GMB151 toasted soybean meal produced in Indiana 2016 with the same amount of isoxaflutole as for comparative analysis. However, the study has got some weak points which compromise the conclusions: I. The toasted soybean meals (GMB151, control and reference variety) were not analyzed for contamination with other GM material; II. The sources of the main ingredients of the rodent diet were not specified. It has been shown that charges of test diets contain considerable amounts of foreign GM material (Mesnage et al. 2015). If they were from transgenic crops this could have masked effects of the tested soybean meal from GMB151. Because of these deficits it remains open whether the 90-day feeding study is suited to support the conclusion that GMB151 soybean is as safe as conventional soybean in terms of food and feed safety. References: Mesnage, R., Defarge, N., Rocque, L.-M., Spiroux de Vendômois, J. and G.-E. Séralini (2015). Laboratory Rodent Diets Contain Toxic Levels of Environmental Contaminants: Implications for Regulatory Tests. PLoS ONE 10(7): e0128429. doi:10.1371/journal.pone.0128429	The GMO Panel thanks Germany for the comment and took it into account.
Germany	BfN	II.1.6.1 Nutritional assessment of the genetically modified food	BfN Comment 9	Additional comments by the Federal Agency for Nature Conservation: The information necessary to conclude on the ERA is partly missing. Thus, the safety of GMB151 soybean cannot be fully assessed. Depending on those results the conclusions concerning case-specific monitoring may need to be revised.	No greater environmental risks as for the comparator, no knowledge gaps or significant uncertainties were identified in the environmental risk assessment. Therefore, no case-specific monitoring is required. A nutritional assessment considering the endpoints identified in the compositional section (section 3.3.6.) was carried out. The outcome of this nutritional assessment indicates that that the consumption of soybean GMB151 does not represent any nutritional concern, in the context of the scope of this application.
Germany	BfN	II.5.3.4 Interactions of the GM plant with non-target organisms (NTOs)	BfN Comment 7	Additional comments by the Federal Agency for Nature Conservation: Import and processing of Bt crops are usually considered to have less environmental impact than cultivation. However, as we pointed out in case of other Bt crop applications, exposure of the environment to Bt toxins should be considered in the ERA.	Given that environmental exposure of non-target organisms to spilled GM soybeans or occasional feral GM soybean plants from spilled crop event beans is limited and because ingested proteins are degraded before entering the

Country	Organization	Reference	Topic	Comment	
				For Bt proteins, in principle, the exposure route from feed, via manure into the environment has been demonstrated for cattle (Gruber et al. 2011; Gürtler et al. 2010, Paul et al. 2010) or pigs (Campos et al. 2018). To our understanding present studies are not sufficient to conclude that exposure of the environment and thus effects on non-target organisms will be negligible. Instead, experimental evidence from the few studies available demonstrates that Bt toxins will be present in feces if livestock is being fed with Bt crops. Consequently, for any market application of Bt crops, experiments should be presented in order to conclude on subsequent effects and risks for non-target organisms. Test protocols for both dung beetles and dung flies have been developed at the OECD level and may be adaptable to GMO. In the current case the Bt protein used is Cry14 which is active against Nematodes. However, data on the activity spectrum of the protein, including a potential cross-order activity, are lacking. We suggest that sufficient quantitative data are provided (both exposure and effect) in order to determine a hazard quotient for soil organisms. References: Campos, R.C., Holderbaum, D.F., Nodari, R.O., Hernandez, M.I.M., (2018) Indirect exposure to Bt maize through pig faeces causes behavioural changes in dung beetles. J. Appl. Entomol.,vol. 57, 117. Gruber,H., Paul,V., Guertler,P., Spiekers, H., Tichopad, A., Meyer, H. H. D. & Müller, M. (2011) Fate of Cry1Ab Protein in Agricultural Systems under Slurry Management of Cows Fed Genetically Modified Maize (Zea mays L.) MON810: A Quantitative Assessment. Journal of Agricultural & Food Chemistry 59 (13), 7135–7144. Gürtler, S.P., Paul, V., Steinke, K., Wiedemann, S., Preißinger, W., Albrecht, C., Spiekers, H., Schwarz, F. J. & Meyer, H. H. D. (2010) Long-term feeding of genetically modified corn (MON810) - Fate of cry1Ab DNA and recombinant protein during the metabolism of the dairy cow. Livestock Science 131, 250-259. Paul, V., Guertler, P., Wiedemann, S., and Meyer. H.H. (2010) Degradation of Cry1Ab protein from genetically modified maize (MON810) in relation to total dietary feed proteins in dairy cow digestion. Transgenic Res. 19: 4.	environment, potential interactions of the crop event with non-target organisms are not considered by the GMO Panel to raise any environmental safety concern.

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.6 Post-Market Environmental Monitoring Plan (PMEM)	BfN Comment 8	Additional comments by the Federal Agency for Nature Conservation: The scope of this application is for import, processing, and all uses for food and feed. The applicant provides an environmental monitoring plan, which remains very general. The monitoring plan has to be elaborated in more detail in order to meet the following requirements: • Provision of a fully specified list of monitoring parameters. • Application of standardised sampling methodologies: A basic prerequisite for comparing GMO monitoring data is the use of appropriate standard detection or analytical methods. Several standards specific for GMO monitoring are provided by the Association of German Engineers (VDI). They are available under http://www.vdi.eu/engineering/vdi-standards/. • Elaboration of a sampling concept. • In case of monitoring data being collected by external persons or institutions other than the applicant, binding agreements/contracts with third parties are requested which clearly determine what data are provided and how these data are made available. • Elaboration of the methods of data analysis including the statistical methods. • Application of the concept of adverse effects and environmental damages: Adverse environmental effects can only be determined if they are related to certain relevant subjects of protection (Bartz et al. 2009). The subject of protection is damaged if it is significantly adversely affected. The identification of a significant adverse effect should consider both its intensity (e.g. extent of loss) and the value of the impaired subject of protection (e.g. high value of protected species). The monitoring should be run in regions, where viable GMB151 soybean will be transported, stored, packaged, processed or used for food/feed. In case of substantial losses and spread of GMB151 soybean all receiving environments need to be monitored. Since traders may commingle the GMO with other commercial GM soybean imported, processed or used for food/feed, the applicant is requested to explain how the monitoring will be designed to distinguish between potential adverse effects caused by GMB151 soybean and those caused by other GM soybean. The Federal Agency for Nature Conservation is of the opinion that a detailed monitoring plan has to be provided before consent may be given.	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. The GMO Panel considers that the PMEM plan proposed by the applicant is in line with the scope of the application. The GMO Panel agrees with the reporting intervals proposed by the applicant in its PMEM plan.

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Comments and opinions submitted by Member States during the three-months consultation period

Country	Organization	Reference	Topic	Comment	
				References: Bartz, R., Heink, U. & Kowarik, I. (2009): Proposed Definition of Environmental Damage Illustrated by the Cases of Genetically Modified Crops and Invasive Species. Conservation Biology 24 (3): 675–681. DOI: 10.1111/j.1523-1739.2009.01385.x	

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.6.2 Case Specific Monitoring (strategy, method and analysis)	BfN Comment 10	Additional comments by the Federal Agency for Nature Conservation: We do not share the opinion of the applicant that a case-specific monitoring is not necessary. Case-specific monitoring should be focused on pathways, where viable plant material of GMB151 soybean enters the environment. Therefore the applicant is requested to provide an appropriate case-specific monitoring plan comprising at least the following elements: i.) spillage or loss of the GMO during transport, storage, packaging, processing and use. ii.) potential spread and persistence of the GMO within all environments, where substantial amounts of viable GMB151 soybean is spilled, if spillage or loss of viable GMB151 soybean occurs. iii.) environmental fate of the Cry protein resulting from sewage water, waste material, manure or by-products which may occur during processing or use of non-viable material of the GMO as food/feed. For parameters i.) – ii.), the use of the following methods is recommended (http://www.vdi.eu/engineering/vdi-standards/): o VDI-Guideline 4330 Part 10 "Floristic mapping of genetically modified plants their crossing partners and their hybrid offspring" o VDI-Guideline 4330 Part 5 "Guideline for the collection and preparation of plant samples for molecular biological analysis" If risk management measures are envisaged, e.g. to minimize incidental spillage during transport, storage, packaging, processing or feed and food use, their efficacy should be monitored during case-specific monitoring (EFSA 2011). References: EFSA (2011). Scientific opinion. Guidance on the Post-Market Environmental monitoring (PMEM) of genetically modified plants. EFSA Journal 9(8): 2316, 40 pp.	No greater environmental risks as for the comparator, no knowledge gaps or significant uncertainties were identified in the environmental risk assessment. Therefore, no case-specific monitoring is required.

Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.6.3 General Surveillance (strategy, method)	BfN Comment 11	Additional comments by the Federal Agency for Nature Conservation: The applicant states that the general surveillance will be based on information gathered from the existing networks of COCERAL, UNISTOCK and FEDIOL. Data shall be collected by operators handling and using viable GMB151 soybean and reported to the authorisation holder, represented by EuropaBio. It remains unclear, how the authorisation holder/EuropaBio will inform operators about their surveillance function and how it will be assured that operators in duty for general surveillance show the necessary skills to detect environmental impacts of the GMO. Therefore, the applicant is requested • to name the national and local organisations and factories involved in the monitoring, • to prove that a sufficient number of local operators agree to contribute to the general surveillance, to provide a schedule with all relevant observation objects to be monitored, • to explain how local operators will be instructed and trained for conducting the general surveillance, to verify the necessary skills and expertise of local operators to detect adverse environmental impacts. In case the suggested operators are not capable to cover all relevant observation objects, further monitoring systems have to be established. The applicant does not suggest operators further down the food chain to be involved in the process of monitoring. We do not approve this, because processed material may also be a cause of adverse effects. Therefore, the applicant is requested to involve also operators further down the food chain in the process of monitoring. The general surveillance plan has to focus on possible pathways, how the GMO can get into the broader environment and how unforeseen adverse effects on human health and the environment can be linked to the dispersal and use of the GMO in environmental media. Beside the implementation of management and safety standards, the applicant is requested to provide an appropriate general surveillance plan comprising at least the above mentioned monitoring elements. GMB151 soybean may enter the environment together with other approved GM soybean lines, containing Cry proteins. Therefore, a special focus should be on possible combined effects.	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. The GMO Panel considers that the PMEM plan proposed by the applicant is in line with the scope of the application. The GMO Panel agrees with the reporting intervals proposed by the applicant in its PMEM plan.

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Country	Organization	Reference	Topic	Comment	
Germany	BfN	II.6.4 Reporting the results of PMEM	BfN Comment 12	Additional comments by the Federal Agency for Nature Conservation: The applicant is required to report on the results of the monitoring including all issues of case-specific monitoring and general surveillance on an annual basis. Raw data have to be made available. The monitoring report should also deliver detailed information on i.) actual volumes of GMB151 soybean imported into the EU, ii.) the ports and silos where shipments of GMB151 soybean were unloaded, iii.) the processing plants and users where viable GMB151 soybean was transferred to, iv.) the amount of GMB151 soybean used on farms for feed, and v.) transport routes of GMB151 soybean.	The GMO Panel took note of the comment. This point needs to be addressed by risk managers.
Germany	BVL (German CA)	II.1 Hazard identification and characterisation	BVL (German CA) Comment 1	The scope of application EFSA-GMO-NL-2018-153 covers import and processing of feed and food products containing, consisting of, or produced from the genetically modified soybean GMB151. Cultivation is not covered by this application. The Federal Office of Consumer Protection and Food Safety (BVL) as German CA is of the opinion that the data provided by the applicant on molecular characterization as well on comparative, allergenic and toxicological assessment do not indicate that soybean GMB151 has adverse effects on human and animal health or on the environment in the context of its intended use. However, in consideration of the fact that one of the subjects of assessment (protein Cry 14Ab-1 with nematicidal properties) has never been evaluated before, neither in the EU nor in other countries, the applicant should provide comprehensive information for characterisation of the newly expressed protein Cry14Ab-1. The information delivered by the applicant for this purpose is deficient in some cases (see specific comments) and should be completed. In addition, the provided monitoring plan is incomplete at this stage and needs further elaboration for implementation.	No greater environmental risks as for the comparator, no knowledge gaps or significant uncertainties were identified in the environmental risk assessment. Please see Section 3.2.3 and 3.2.4 of the opinion. The methodology used to quantify the levels of the Cry14Ab-1, as well as data on protein characterisation (comparing the biochemical, structural and functional properties of plant and microbe-produced Cry14Ab-1) were considered adequate and compliant to EFSA guidelines. Functional equivalence was demonstrated by an insect feeding bioassay which showed that plant and microbe-derived Cry14Ab-1 proteins had comparable insecticidal activity. The GMO Panel was in the position to conclude that there are no food and feed toxicological concerns as regards to Cry 14Ab-1 protein. The conclusion was based on the available information that included a 28-day toxicity study in mice at 1000 mg/kg bw/day. Further details can be found in section 3.4.3.1 of the scientific opinion.

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Country	Organization	Reference	Topic	Comment	
Germany	BVL (German CA)	II.1.2.2 Information relating to the genetically modified plant	BVL (German CA) Comment 2	The study M-573850-01-1 provided by the applicant in order to describe Cry 14Ab-1 appears as a draft and reveals considerable gaps: 1. The applicant failed to specify the strain of Bacillus thuringensis, from which Cry 14Ab-1 was isolated. The publication (Bravo et al. 2012), the applicant referred to, is firstly not provided within the application, and secondly does not give any information about Cry14Ab-1. 2. The applicant states that the cry14Ab-1 gene has been modified for plant expression. However, no further details on type and extent of the modification is provided and should be added by the applicant. 3. For the nematicidal activity of Cry14Ab-1, the applicant refers to the study performed by Marroquin et al. (2000) showing nematicidal activity of Cry5B protein and states solely that "similar study" was performed with Cry14Ab-1 and "similar results were obtained". No further details and specifications of the performed study are provided, except for microscopic observations. The applicant is asked to provide further details on the study.	Please see Section 3.2.2. The methodology used to quantify the levels of the Cry14Ab-1 (GenBank accession number AGU13817.1), as well as data on protein characterisation (comparing the biochemical, structural and functional properties of plant and microbe-produced Cry14Ab-1) were considered adequate and indicate that the microbial derived proteins can be used in the safety studies. Functional equivalence was demonstrated by an insect feeding bioassay which showed that plant and microbe-derived Cry14Ab-1 proteins had comparable insecticidal activity.
Germany	BVL (German CA)	II.1.2.2 Information relating to the genetically modified plant	BVL (German CA) Comment 3	II.1.2.2.3 Information on expression of the insert According to the applicant, information on soybean production trials for protein expression analysis is available in the study 16-RSVLT212. However, the mentioned study is not provided within the application documents and should be submitted for the sake of completeness.	The study was provided with the additional information received on 04.12.2020

Country	Organization	Reference	Topic	Comment	
Germany	BVL (German CA)	II.1.3 Comparative analysis	BVL (German CA) Comment 4	During the growing season in 2017, the applicant conducted field trials at 12 sites located in commercial soybean-growing areas in the USA using a 4-block design. One trial was removed due to a field flooding in the beginning of the growth season. According to the applicant, the selected sites represent geographically diverse locations within the crop production areas, including different soil types and weather characteristics. Agronomic and phenotypic characteristics of soybean GMB151 were analysed from all 11 sites. In contrast, in order to analyse the composition of soybean GMB151, only eight of the 11 sites were selected without providing a justification for exclusion of the remaining sites. According to the EFSA Guidance (EFSA, 2011), the applicant should provide scientific justification for the exclusion in order to explain the intended representativeness of the eight selected sites in a comprehensible way.	The GMO panel requested to the applicant additional information (clock 1) to justify the selection of the eight sites used for the compositional analysis out of the eleven selected for the agronomic and phenotypic analysis. The applicant provided a reply on 12/04/2019 explicitly justifying that the eights sites used for the compositional analysis were selected to represent a broad geographical distribution capturing a range of agro-climatological conditions as well as different crop management systems. The GMO Panel considers that the selected sites, including the subset chosen for the compositional analysis, reflect commercial soybean-growing regions in which the test materials are likely to be grown.
Germany	BVL (German CA)	II.1.4.1 Testing of newly expressed proteins	BVL (German CA) Comment 5	The study for testing the substrate specificity of HPPD-4 had shown relative reaction rates of 3,4-hydroxypyruvat. The applicant justifies the reactivity of 3,4-dHPP with HPPD-4 protein by "artificial in vitro conditions highly favoured a reaction that is not expected to occur under natural conditions". A strict formal interpretation of this statement would raise the consequent question, whether the entire study (including all results) has any informative value. Therefore, the applicant is asked to discuss the results in relation to physiological consequences of the possible affinity of HPPD-4 protein to 3,4-dHHP. In both, repeated dose toxicity studies for Cry14Ab-1 and HPPD-4 respectively, the total protein content of test material is not provided, which is important for judgment of the purity of the tested substance. The applicant evaluated the equivalence of microbially and in planta produced Cry14Ab-1 and HPPD-4, respectively. However, in some studies (Thermostability, SIF, SGF for both proteins) and repeated dose toxicity study for Cry14Ab-1 (M-556693-01-1) other batches of microbial-produced proteins were used as those used in the equivalence study. The applicant is asked to clarify whether the used protein batches can be considered equivalent. Additionally, in the dossier the applicant refers to the conducted oral acute toxicity study, which is not provided within application documents and should be submitted.	The study for testing substrate specificity was assessed by the GMO Panel and found adequate. With regards to possible physiological effects of the protein activity on the plant, it is noted that a comprehensive agronomic and phenotypic, and compositional analysis tailored to the HPPD activity has been conducted and it has been considered adequate by the GMO Panel. With regards to possible effects of the protein on animals, no adverse effects were noted in a 28-day toxicity study on HPPD-4 in mice. The GMO Panel notes that some HPPD proteins are annotated as hemolysins; however the hemolytic activity is reported to result indirectly from the HPPD protein activity (formation of hemolytic melanin-like pigment resulting from the oxidation of HGT); moreover no haemolytic activity was identified in in vitro haemolysis tests on other HPPDs (EFSA GMO Panel, 215; Dreesen et.al, 2018) The GMO Panel thanks Germany for the comment on the test items used in safety studies. Information on the test items used in toxicological studies is provided in the comprehensive certificates of analysis attached to the respective study reports. These certificates represent a summary of data obtained in the OECD GLP characterisation studies for the respective proteins. As regards the HPPD-4 protein, the test item used in the 28-day study is the recombinant E.coli HPPD-4 batch 1338, in the physical form of lyophilised powder; the total protein amount of the lyophilised powder was measured (by measurements of absorbance at 280nm), as well as its purity, determined to be 98% by densitometry of a Coomassie stained reducing SDS-PAGE gel. The GMO Panel asked clarification on the presence of 191 µg/mg FeCl2 in the test,

Country	Organization	Reference	Topic	Comment	
					and item. The applicant clarified that HPPD is a non-heme iron dependant enzyme, and Fe-ions are needed to preserve the structure, and consequently also the activity of the HPPD protein (Additional information Clock#5, 18/12/2019).The test item was formulated in a suspension for administration to mice; the analyses of the formulation (stability, concentration and homogeneity) are duly documented in the study report (Materials and Methods, 2.1.1 and 2.1.2) The GMO Panel asked further clarification on the stability of the formulation, that was provided by the applicant (Additional information Clock#5, 18/12/2019) and found to be satisfactory by the GMO Panel) As regards the Cry14Ab protein, the test item used in the 28-day study is the recombinant Bt Cry14Ab-1 batch 1338_1505, in the physical form of solution, as further clarified by the applicant following a question by the GMO Panel (Additional information Clock#5, 18/12/2019). Its purity was determined to be 91% by densitometry of a Coomassie stained reducing SDS-PAGE gel. The test item was diluted in a buffer for administration to mice, full details in in the study report (Materials and Methods, 2.1.1 and 2.1.2), integrated by information on the composition, stability and homogeneity of the solution (Additional information Clock#5, 18/12/2019). Overall, the GMO Panel considered that the test items used in the 28-day toxicity studies on HPPD-4 and Cry14-Ab-1 are adequate as regards the requirements of OECD TG 408. With regards to the equivalence of the Cry14Ab-1 protein tested in safety studies to the plant protein, the GMO Panel asked clarification in the context of the 28-day study. The GMO Panel considered that the additional information received (Clock#5, 18/12/2019) confirmed the equivalence of the test item used in the 28-day study with the plant expressed protein. Post translational modifications identified in plant expressed proteins, and not present in microbial recombinant proteins used in the 28-day studies were assessed (see Section 3.4.3 for further details). The acute toxicity study on Cry14Ab-1 was requested by EFSA and provided by the applicant (Additional information Clock#5, 18/12/2019).

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Country	Organization	Reference	Topic	Comment	
Germany	BVL (German CA)	II.5.3.1 Persistence and invasiveness including plant-to-plant gene flow	BVL (German CA) Comment 6	The import documents should indicate that soybean GMB151 has not been approved for cultivation by the EC. In addition to the intended GM labelling, a clear labelling of soybean GMB151 indicating the tolerance to isoxaflutole-based herbicides is recommended. Furthermore, appropriate measures have to be taken during transport, storage, and processing to avoid unintended release of germinable soybeans into the environment. In this context, the applicant should inform all parties involved in the handling and processing of soybean GMB151 about avoidance and control of spillage	Thank you for the comment. The requested risk management measures are not in the remit of the GMO Panel.
Germany	BVL (German CA)	II.6 Post-Market Environmental Monitoring Plan (PMEM)	BVL (German CA) Comment 7	The monitoring plan is acceptable but needs further elaboration for implementation. Therefore, the applicant is recommended to revise the monitoring plan during the initial implementation phase (after consent is given) and present this revised monitoring plan together with a first report one year after consent is given to be reassessed.	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. The GMO Panel considers that the PMEM plan proposed by the applicant is in line with the scope of the application. The GMO Panel agrees with the reporting intervals proposed by the applicant in its PMEM plan.
Germany	BVL (German CA)	II.6.2 Case Specific Monitoring (strategy, method and analysis)	BVL (German CA) Comment 8	According to the risk assessment, no adverse effects on the environment or human health were identified or were expected. Therefore, there is no necessity for a case-specific monitoring.	Thank you. The GMO panel took note of the comment.

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Country	Organization	Reference	Topic	Comment	
Germany	BVL (German CA)	II.6.3 General Surveillance (strategy, method)	BVL (German CA) Comment 9	The monitoring plan does not relate the monitoring activities to relevant protection goals. Even more it is not described which routine observations (including parameters or monitoring characters) are carried out in relation to the protection goals. Only reporting on 'any unanticipated effect' is solely not an appropriate parameter, because it already anticipates an evaluation. This evaluation process should be based on a distinct set of parameters and a scientific sound data analysis. It is requested that the applicant specifies in detail, how and which information will be pro-actively queried, gathered, and how they will be evaluated. In addition, it might be useful to integrate information about the use of the product in food and feed to deliver supplementary helpful data (of exposure to consumers and animals) for general surveillance. Therefore, the applicant should specify monitoring activities in the field of human and animal health. He should describe in detail how animal and human health surveillance is integrated in the monitoring plan. The strategy of General Surveillance is mainly based on the involvement of importers, traders, silo operators and processors coordinated by EuropaBio. The applicant will inform the selected networks of operators about market release of GM plant products and will remind them to report on 'any unanticipated adverse effect'. He stated that these third parties have to follow legal obligations of food and feed hygiene (HACCP). Nevertheless, the role and interplay of all actors on behalf of recording, analysis and evaluation of monitoring data needs more transparency. The applicant should consider whether other existing monitoring networks might be used in particular in the field of human and animal health. In such a case, the selection and evaluation process should be described in detail. In general, other sources of information e.g. peer-reviewed publications or ongoing research should be taken into account. However, the applicant should describe in detail how he would consider this information within General Surveillance.	Monitoring is related to risk management, and thus a final adoption of the PMEM plan falls outside the mandate of EFSA. However, the GMO Panel gives its opinion on the scientific rationale of the PMEM plan provided by the applicant. The GMO Panel considers that the PMEM plan proposed by the applicant is in line with the scope of the application. The GMO Panel agrees with the reporting intervals proposed by the applicant in its PMEM plan. The GMO Panel does not consider necessary a Post Market Monitoring Plans, since, as indicated by Reg (EU) No 503/2013, Art 7 it is not necessary to confirm that specific recommendations of uses for this GMP are followed by the consumer/animal owner; or the predicted consumption of the genetically modified food or feed; or the relevance and intensity of effects and unintended effects detected during the pre-market risk assessment which can only be further characterised by post-market monitoring.

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Country	Organization	Reference	Topic	Comment	
Germany	BVL (German CA)	II.6.4 Reporting the results of PMEM	BVL (German CA) Comment 10	A report on GS activities on an annual basis is sufficient. Reporting should refer to the format introduced by the Commission Decision 2009/770/EC. The applicant is requested to state how the monitoring results will be published.	Thank you. The GMO panel took note of the comment.
Netherlands	Dutch GMO Office	A _ 4.5.1 Design and performance of 90-day feeding study in rodents	Dutch comment on EFSA/GMO/ NL/2018/15 3 2	No concerns were raised over the safety of GMB151 soybean in the absence of any relevant effects in the studies performed with it, including an extensive comparative analysis of soybean composition. In the assessors' opinion, the 90-day feeding study performed with GMB151 soybean would not have been needed to confirm its safety, given that a proper justification for the execution of these studies is lacking since there are no relevant differences resulting from the comparative assessment (e.g., EFSA, 2014). These views are also in line with guidance for the safety assessment of GM foods as established by the EFSA GMO Panel and Codex Alimentarius. It is recommended to emphasize that this is a departure from what is considered sufficient for safety assessment of biotechnology-derived products according to the internationally harmonized approach.	The GMO Panel thanks the Netherlands for the comment.
Netherlands	Dutch GMO Office	A _ Hazard identification and characterisation	Dutch comment on EFSA/GMO/ NL/2018/15 3	The Dutch CA has assessed the dossier with respect to the environmental safety of GMB151 soybean and has no comments or requests for additional information in relation to the safety of this GM event.	The GMO Unit thanks the Netherlands for this comment.
Norway	VKM	II.1.3 Comparative analysis	Norwegian Scientific Committe for Food and Environment _VKM	VKM welcomes information on herbicide residue levels and their relevant metabolites in applications for herbicide tolerant GM-plants. Data on Isoxaflutole residue levels, including relevant metabolites, in plant material from field studies would support the assessment of food, feed, and environmental safety.	The measurement of residual herbicide and metabolite levels of the herbicide in plants is not in the remit of the GMO Panel

Note: For the full reference of the publications cited in the GMO Panel responses, please see the reference list of the Scientific Opinion. For the publications cited only in this document, a full reference is provided as a link in the responses or below.

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