Application for authorization of stacked Bt11 x GA21 maize in the European Union under Regulation (EC) No 1829/2003

PART II: SUMMARY

A . GENERAL INFORMATION

1. Details of application

a) Member State of application UK
b) Application number Not available at the time of submission
c) Name of the product (commercial and other names) Bt11 x GA21 maize
d) Date of acknowledgement of valid application Not available at the time of submission

2. Applicant

a) Name of applicant Syngenta Seeds S.A.S on behalf of Syngenta Crop Protection AG, Basel
b) Address of applicant Syngenta Seeds S.A.S. 12, chemin de l'Hobit BP 27 F-31790 Saint-Sauveur On behalf of Syngenta Crop Protection AG, Basel Switzerland and all affiliated companies Schwarzwaldallee 215 CH 4058 Basle Switzerland
c) Name and address of the person established in the Community who is responsible for the placing in the market, whether it be the manufacturer, the importer or the distributor, if different from the applicant (Commission Decision 2004/204/EC Art 3(a)(ii)) Bt11 x GA21 maize will be imported and used as any other maize in the EU by operators currently involved in these processes.

3. Scope of the application

☒ GM plants for food use

☒ Food containing or consisting of GM plants

☒Food produced from GM plants or containing ingredients produced from GM plants

☒GM plants for feed use

☒ Feed containing or consisting of GM plants

☒ Feed produced from GM plants

☒ Import and processing (Part C of Directive 2001/18/EC)

☐ Seeds and plant propagating material for cultivation in Europe (Part C of Directive 2001/18/EC)

4. Is the product being simultaneously notified within the framework of another regulation (e.g. Seed legislation?)?

Yes ☐	No ☒
If *yes*, specify	

5. Has the GM plant been notified under Part B of Directive 2001/18/EC and/or Directive 90/220/EEC?

Yes ☐	No ☒
If *no*, refer to risk analysis data on the basis of the elements of Part B of Directive 2001/18/EC	

6. Has the GM plant or derived products been previously notified for marketing in the Community under Part C of Directive 2001/18/EC or Regulation (EC) 258/97?

Yes ☐	No ☒
If *yes*, specify	

7. Has the product been notified in a third country either previously or simultaneously?

Yes ☒	No ☐
If *yes*, specify Bt11 x GA21 can be grown commercially in the US and Canada. A number of submissions have been made in third countries around the world and these are at different stages in the approval process.	

8. General description of the product

a) Name of the recipient or parental plant and the intended function of the genetic modification

Bt11 x GA21 maize is a stacked genetically modified (GM) product that has been produced by a conventional breeding cross of two GM maize:

- Event Bt11 maize which expresses a truncated Cry1Ab protein for control of certain lepidopteran pests and a phosphinothricin acetyltransferase (PAT) protein that confers tolerance to herbicide products containing glufosinate ammonium.
- Event GA21 maize which expresses a modified maize 5-enolpyruvylshikimate-3-phosphate synthase enzyme (mEPSPS) that confers tolerance to herbicide products containing glyphosate.

b) Types of products planned to be placed on the market according to the authorisation applied for

The scope of the application includes all feed and food products containing, consisting or produced from the genetically modified Bt11 x GA21 maize including products from inbreds and hybrids obtained by conventional breeding of Bt11 x GA21 maize. The application also covers the import and industrial processing of Bt11 x GA21 maize for all potential uses as any other maize.

c) Intended use of the product and types of users

Use as any other conventional maize

d) Specific instructions and/or recommendations for use, storage and handling, including mandatory restrictions proposed as a condition of the authorisation applied for

The characteristics of Bt11 x GA21 maize and products derived from it are not different from those of its conventional counterpart, apart from the introduced traits of insect tolerance and tolerance to herbicide products containing glufosinate ammonium or glyphosate. Bt11 x GA21 maize has been shown to be as safe and as wholesome as existing varieties of maize. Therefore there are no specific instructions or recommendations for use, storage and handling of Bt11 x GA21 maize.

e) Any proposed packaging requirements

The characteristics of Bt11 x GA21 maize and products derived from it are not different from

those of its conventional counterpart. Event GA21 has been shown to be as safe and as wholesome as existing varieties of maize. Therefore there are no specific instructions for packaging.
f) A proposal for labelling in accordance with Articles 13 and Articles 25 of Regulation (EC) 1829/2003. In the case of GMOs, food and/or feed containing or consisting of GMOs, a proposal for labelling has to be included complying with the requirements of Article 4, B(6) of Regulation (EC) 1830/2003 and Annex IV of Directive 2001/18/EC A proposal for labelling has been included in the application following the guidance provided by EFSA. This includes the labelling requirements outlined by Regulation (EC) No 1829/2003 and Annex IV of Directive 2001/18/EC. Bt11 x GA21 maize grain will therefore be labelled as "genetically modified maize" and products derived from it will be labelled as "containing (or produced from) genetically modified maize". Since Bt11 x GA21 maize and products derived from it are not different from those of its conventional counterpart, no additional labelling is required.
g) Unique identifier for the GM plant (Regulation (EC) 65/2004; does not apply to applications concerning only food and feed produced from GM plants, or containing ingredients produced from GM plants) A unique identifier for Bt11 x GA21 maize has been assigned in accordance with Commission Regulation (EC) 65/2004: SYN-BTØ11-1 x MON-ØØØ21-9.
h) If applicable, geographical areas within the EU to which the product is intended to be confined under the terms of the authorisation applied for. Any type of environment to which the product is unsuited Bt11 x GA21 maize is suitable for use as any other maize under the terms of the authorisation applied for.

9. Measures suggested by the applicant to take in case of unintended release or misuse as well as measures for disposal and treatment

Maize is incapable of sustained reproduction outside domestic cultivation and is non-invasive of natural habitats. The characteristics of Bt11 x GA21 maize and products derived from it are not different from those of its conventional counterpart, apart from the intended effect of tolerance to certain Lepidopteran insect pests and herbicide products containing glufosinate ammonium or glyphosate. Cultivation of Bt11 x GA21 maize in the EU is not within the scope of this application. In the unlikely event that small amounts of maize kernels of Bt11 x GA21 maize accidentally found their way into the environment this would represent extremely low levels of exposure and the survival of these kernels to produce flowering plants would be very unlikely. In addition, volunteers could be easily controlled using any of the current agronomic measures taken to control other commercially available maize such as cultivation and the use of selective herbicides.

Bt11 x GA21 maize has been shown to be as safe and as wholesome as existing varieties of maize. Any unintended releases or misuse can be dealt with in the same way as any other conventional maize.

B. INFORMATION RELATING TO THE RECIPIENT OR (WHERE APPROPRIATE) PARENTAL PLANTS

1. Complete name

a) Family name Poaceae (formerly Gramineae)
b) Genus *Zea*
c) Species *mays*
d) Subspecies *mays*
e) Cultivar/breeding line or strain Bt11 x GA21 maize
f) Common name Maize; corn

2 a. Information concerning reproduction

(i) Mode(s) of reproduction Sexual reproduction: *Zea mays* is an allogamous plant that propagates through seed produced predominantly by cross-pollination and depends mainly on wind borne cross-fertilisation. *Z. mays* is a plant with protandrous inflorescence; however, decades of conventional selection and improvement have produced varieties of maize with protogynous traits. *Z. mays* has staminate flowers in the tassels and pistillate flowers on the ear shoots. There is no asexually reproductive maize.
(ii) Specific factors affecting reproduction The key critical stages of maize reproduction are tasselling, silking, pollination and fertilization. Pollen dispersal is limited by several factors, including large size (0.1 mm diameter), rapid settling rate and short survivability. Most maize varieties are protoandrous so pollen shedding precedes silk emergence by up to five days. More than 98% of the pollen settles to the ground within a maximum distance of 25-50 meters of its source. Shed pollen typically remains viable for 10 to 30 minutes, but may remain viable longer under refrigerated

and humid conditions.
(iii) Generation time Maize is an annual crop. The generation time from sowing to harvesting varies according to the genetic background and the climate, it can range from as short as 60 to 70 days to as long as 43 to 48 weeks from seedling emergence to maturity.

2 b. Sexual compatibility with other cultivated or wild plant species

Other cultivated plant species: The sexual compatibility of maize with other cultivated plant species is limited to *Zea* species. Wild plant species*:* No wild relatives of maize are present in Europe. Therefore, maize cannot exchange genes with any other wild species in the EU.

3. Survivability

a) Ability to form structures for survival or dormancy Maize is an annual crop. Seeds are the only survival structures; they cannot be dispersed without mechanical disruption of the cobs and show little or no dormancy. Natural regeneration from vegetative tissue is not known to occur.
b) Specific factors affecting survivability Survival of maize is dependent upon temperature, seed moisture, genotype, husk protection and stage of development. Maize cannot persist as a weed. Maize seed can only survive under a narrow range of climatic conditions. Volunteers are killed by frost or easily controlled by current agronomic practices including cultivation and the use of selective herbicides. Maize is incapable of sustained reproduction outside of domestic cultivation and is non-invasive of natural habitats.

4. Dissemination

a) Ways and extent of dissemination Maize dissemination can only be accomplished through seed dispersal. Seed dispersal does not occur naturally due to the structure of the ear.
b) Specific factors affecting dissemination

Maize has a polystichous (arranged in many rows) female inflorescence (flower), called the ear, on a stiff central spike (cob) enclosed in husks (modified leaves). Because of the structure of the ears, seed dispersal of individual kernels does not occur naturally. Maize is non-invasive of natural habitats.

5. Geographical distribution and cultivation of the plant, including the distribution in Europe of the compatible species

Maize, which has very diverse morphological and physiological traits, is grown on approximately 145 million hectares worldwide. It is distributed over a wide range of conditions: from 56º N Lat to 40º S Lat, below sea level of the Caspian plains up to 3000 m in the Andes Mountains and from semi-arid regions to arid regions. The greatest maize production occurs where the warmest month isotherms range between 21º and 27º C and the freeze-free season lasts 120-180 days.

There are no wild relatives of maize in Europe.

6. In the case of plant species not normally grown in the Member State(s), description of the natural habitat of the plant, including information on natural predators, parasites, competitors and symbionts

Maize was introduced into Europe in the 15th century by Columbus and is widely grown in the European Union Member States.

7. Other potential interactions, relevant to the GM plant, of the plant with organisms in the ecosystem where it is usually grown, or used elsewhere, including information on toxic effects on humans, animals and other organisms

Maize is known to interact with other organisms in the environment including insects, birds, and mammals. It is susceptible to a range of fungal diseases and insect pests, as well as to competition from surrounding weeds. Maize is extensively cultivated and has a history of safe use for human food and animal feed. No significant native toxins are reported to be associated with the genus *Zea*.

C. INFORMATION RELATING TO THE GENETIC MODIFICATION

1. Description of the methods used for the genetic modification

The Bt11 x GA21 maize described in this application has been produced by crossing the genetically modified GA21 maize and Bt11 maize through conventional breeding techniques. There was no further genetic modification to produce the stack.

The Bt11 and GA21 events were produced by genetic modification as follows:

Bt11 maize was produced using protoplast transformation/regeneration

Event GA21 was produced via microprojectile bombardment of maize suspension culture cells

2. Nature and source of the vector used

The Bt11 x GA21 maize described in this application has been produced by crossing the genetically modified GA21 maize and Bt11 maize through conventional breeding techniques.

The vectors used to produce Bt11 maize and GA21 maize are as follows:

The Plasmid pZO1502, cut with a *Not*I restriction enzyme, was used to produce Event Bt11. The plasmid is a derivative of the commercially available plasmid pUC18.

A *Not*I restriction fragment from the Plasmid pDPG434, was used to produce Event GA21. The plasmid is derived from a pSK- vector which is commonly used in molecular biology and is derived from pUC19.

3. Source of donor DNA, size and intended function of each constituent fragment of the region intended for insertion

The Bt11 x GA21 maize described in this application has been produced by combining Bt11 maize and GA21 maize through conventional breeding techniques. There was no further genetic modification to produce the stacked product. The size, source and intended function of each constituent fragment of the *Not*I regions intended for insertion in Events Bt11 maize and GA21 maize is described below:

Event Bt11 maize

Vector Component	Approx. Size (bp)	Description
35S promoter	509	Promoter from the cauliflower mosaic virus.
IVS6-ADH1	471	Maize intron sequence from the maize alcohol dehydrogenase gene used to enhance gene expression in maize.
cry1Ab	1848	*cry1Ab* gene, which encodes a Cry1Ab protein that confers resistance to certain lepidopteran insect pests. The *cry1Ab* gene was originally cloned from *Bacillus thuringiensis* var. *kurstaki* HD-1
NOS	253	Polyadenylation region from the nopaline synthase gene from *Agrobacterium tumefaciens*.
35S promoter	418	Promoter from the cauliflower mosaic virus.
IVS2-ADH1	180	Maize intron sequence from the maize alcohol dehydrogenase gene used to enhance gene expression in maize.
pat	552	*Streptomyces viridochromogenes* gene encoding the selectable marker PAT. PAT confers resistance to herbicides containing glufosinate
NOS	253	Polyadenylation region from the nopaline synthase gene from *Agrobacterium tumefaciens*.

Event GA21 maize

Vector Component	Approx. Size (Kb)	Description
Rice actin promoter and intron	1.4	5' region of the rice actin 1 gene containing the promoter and first exon and intron provides constitutive expression of the *mepsps* gene in maize.
Optimised transit peptide	0.4	Optimised transit peptide sequence constructed based on transit peptide sequences from maize and sunflower ribulose-1,5-bis phosphate carboxylase oxygenase (RuBisCo) genes.
Modified maize EPSPS gene	1.3	Mutated *epsps* gene, which confers resistance to herbicide products containing glyphosate.
NOS	0.3	Polyadenylation region from the nopaline synthase gene from *Agrobacterium tumefaciens*.

D. INFORMATION RELATING TO THE GM PLANT

1. Description of the trait(s) and characteristics which have been introduced or modified

Bt11 x GA21 maize is a stacked genetically modified product that has been produced by a conventional breeding cross of Bt11 maize and GA21 maize and expresses the following proteins:

- a truncated Cry1Ab protein for control of certain lepidopteran pests
- a phosphinothricin acetyltransferase (PAT) protein that confers tolerance to herbicide products containing glufosinate ammonium.
- a modified maize 5-enolpyruvylshikimate-3-phosphate synthase enzyme (mEPSPS) that confers tolerance to herbicide products containing glyphosate.

2. Information on the sequences actually inserted or deleted

a) The copy number of all detectable inserts, both complete and partial

Bt11 x GA21 maize is a stacked genetically modified product that has been produced by a conventional breeding cross of Bt11 maize and GA21 maize. The inserts in Bt11 and GA21 maize are present at a single locus and inherited as a single gene in a Mendelian fashion.

In the case of the Bt11 event the single DNA insertion contains one copy of the insert with the *cry*1Ab and the *pat* cassettes.

In the case of the GA21 event the single DNA insertion contains 6 copies of the insert and 3 copies are the intact *NotI* fragment containing the *mepsps* gene.

Southern analysis has been performed to demonstrate the absence of further copies of the insert or vector sequence elsewhere in the genome of the single events.

In order to assess the integrity of the insert from each individual event during conventional breeding to produce Bt11 x GA21 maize, additional Southern analysis was performed. The predicted DNA hybridization patterns from each individual event were confirmed in Bt11 x GA21 maize, demonstrating preservation of the integrity of the transgenic fragment from each individual event to Bt11 x GA21 maize.

b) In case of deletion(s), size and function of the deleted region(s)

Not applicable

c) Chromosomal location(s) of insert(s) (nucleus, chloroplasts, mitochondria, or maintained in a non-integrated form), and methods for its determination

Bt11 x GA21 maize is a stacked genetically modified product that has been produced by a conventional breeding cross of Bt11 maize and GA21 maize. It therefore contains the Bt11 and GA21 inserts derived from the single events. The presence of the inserts from Bt11 maize and GA21 maize in the stacked product was confirmed by Southern blot analyses.

d) The organisation of the inserted genetic material at the insertion site

Bt11 x GA21 maize is a stacked genetically modified product that has been produced by a conventional breeding cross of Bt11 maize and GA21 maize. The organisation of the inserted genetic material in Bt11 and GA21 maize is as follows:

Bt11 maize

Sequencing and southern data have demonstrated that the Bt11 event contains a single DNA insertion with one copy of both the *cry*1Ab and the *pat* cassettes.

GA21 Maize

Sequence analysis of the Event GA21 insert demonstrates that the insert is comprised of six contiguous regions derived from the 3.49 kb *Not*I restriction fragment from pDPG434 employed in the generation of Event GA21 (copies 1-6). Copy 1 contains the rice actin promoter that has a 5' deletion of 696 bp, the actin first exon and intron, the optimized transit peptide, the *mepsps* gene and the NOS terminator. Copies 2, 3 and 4 are intact versions of the 3.49 kb *Not*I restriction fragment from pDPG434. Copy 5 contains a complete rice actin promoter, the actin first exon and intron, the optimized transit peptide and the first 288 bp of the *mepsps* gene which ends in a stop codon and does not contain the NOS terminator. Copy 6 contains the rice actin promoter and a truncated actin first exon; it contains no other elements from pDPG434.

A molecular comparison of the Bt11 x GA21 maize with the single events Bt11 and GA21 maize has shown that the inserts are preserved in Bt11 x GA21.

3. Information on the expression of the insert

a) Information on developmental expression of the insert during the life cycle of the plant

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding. Therefore these maize plants express the three transgenic proteins present in Bt11 maize and GA21 maize plants: Cry1Ab, PAT and mEPSPS.

Tissues from maize plants derived from Bt11 maize, GA21 maize and a conventional breeding stack of Bt11 and GA21 (Bt11 x GA21) were analyzed by ELISA to compare the concentrations of Cry1Ab, PAT and mEPSPS produced in the plants.

The analyses were performed on key plant tissues collected from transgenic hybrid plants

grown in a single location at three sampling times across the growing season. To control for background effects, the corresponding tissues from a near-isogenic control maize were also analyzed.

For Cry1Ab and PAT, the overall concentrations were, as expected, generally comparable between the Bt11 x GA21 hybrid and the Bt11 hybrid. Similarly, for the mEPSPS protein, the overall concentrations were also generally comparable between the Bt11 x GA21 hybrid and the GA21 hybrid. As expected, no Cry1Ab, PAT or mEPSPS proteins were detected in the near iso-genic control samples. Although some statistically significant differences were seen, these differences were small or not consistent across the growing season. These results support the conclusion that, as expected, transgenic protein expression in Bt11 x GA21 maize is not substantially different from that of the Bt11 and GA21 maize.

b) Parts of the plant where the insert is expressed

To characterize the range of expression of Cry1Ab, PAT and mEPSPS proteins in Bt11 x GA21 maize plants and the single events, the concentrations of these proteins were determined by ELISA in several plant tissues (leaves, roots, kernels and pollen).

Quantifiable concentrations of Cry1Ab protein were detected in leaves, roots and kernels derived from Bt11 maize and Bt11 x GA21 maize. Very low levels of Cry1Ab expression were detected in the pollen of Bt11 maize and Bt11 x GA21 maize (0.1 and 0.12 ug/gdw respectively).

Quantifiable concentrations of PAT protein were detected in leaves and roots derived from Bt11 maize and Bt11 x GA21 maize at most stages of development, however no quantifiable levels could be detected in the kernels or pollen.

Quantifiable concentrations of mEPSPS protein were detected in all GA21 maize and Bt11 x GA21 maize derived plant tissues.

4. Information on how the GM plant differs from the recipient plant in

a) Reproduction

No changes in the reproduction, dissemination or survivability compared to non-GM maize have been observed in agronomic assessments conducted with Bt11 x GA21 maize.

b) Dissemination

No changes in the reproduction, dissemination or survivability compared to non-GM maize have been observed in agronomic assessments conducted with Bt11 x GA21 maize.

c) Survivability

No changes in the reproduction, dissemination or survivability compared to non-GM maize have been observed in agronomic assessments conducted with Bt11 x GA21 maize.

d) Other differences

No changes in the reproduction, dissemination or survivability compared to non-GM maize have been observed in agronomic assessments conducted with Bt11 x GA21 maize.

5. Genetic stability of the insert and phenotypic stability of the GM plant

The insert has been stably integrated into the plants genome in Bt11 maize and GA21 maize and the insert in each of the single event segregates as a single gene according to Mendelian laws of genetics.

Bt11 x GA21 maize F_1 seed is produced through conventional breeding involving Bt11 and GA21 inbred lines. Bt11 x GA21 seed once planted by growers produces grain (F_2) which is harvested for food, feed or industrial use. Such grain or products entering the commodity chain are not kept for further sowing.

6. Any change to the ability of the GM plant to transfer genetic material to other organisms

a) Plant to bacteria gene transfer

The horizontal gene transfer from GM plants to bacteria with subsequent expression of the transgene is regarded as a highly unlikely event under natural conditions, especially in the absence of selective pressure. No changes in the ability of the Bt11 x GA21 maize, Bt11 maize and GA21 maize to transfer genetic material to other organism are expected compared to conventional maize since no sequences have been introduced to allow this to occur.

b) Plant to plant gene transfer

The genetic modification in Bt11 maize and GA21 maize is not intended to change any of the typical crop characteristics of maize (except for the tolerance to insect and herbicide products). Observations from field trials have confirmed that the agronomic characteristics of Bt11 maize, GA21 maize and Bt11 x GA21 have not changed in comparison with isogenic controls, and therefore, there is no increase or decrease in the potential for plant-to-plant gene transfer compared to traditional maize. Gene transfer from Bt11 x GA21 maize to other sexually compatible plant species is not possible since maize has no wild relatives in the EU. In addition, since the scope of this application does not include authorisation for the cultivation of Bt11 x GA21 maize, the likelihood of dissemination of pollen to other plants (including cultivated maize plants) is considered to be negligible.

7. Information on any toxic, allergenic or other harmful effects on human or animal health arising from the GM food/feed

7.1 Comparative assessment

Choice of the comparator

Genetically modified maize was compared with relevant control maize lines that had not been genetically modified. Commercial varieties were also included in the comparison where possible.

7.2 Production of material for comparative assessment

a) number of locations, growing seasons, geographical spreading and replicates

To confirm that Bt11 x GA21 maize plants are substantially equivalent to the non-transgenic isolines, replicate trials of transgenic and corresponding isogenic controls were planted. The locations of the trial sites were selected to be representative of the range of environmental conditions under which the hybrid varieties are expected to be grown. At each location, three replicate plots of each genotype were planted.

b) the baseline used for consideration of natural variations

The levels of multiple nutritive components were compared in maize kernels (grain) or whole plants (forage) from the transgenic and simultaneously grown isogenic control plants. The mean values are also compared with the range of data published in the literature, where data was available.

7.3 Selection of materials and compounds for analysis

Based on guidance of the OECD, grain from transgenic plants and isogenic control plants were analysed for proximates (including starch), minerals, amino acids and selected fatty acids, vitamins, anti-nutrients and secondary metabolites. Forage (whole plants) from transgenic maize plants and isogenic control plants were analysed for proximates and minerals.

No consistent pattern has emerged to suggest that biologically significant changes in composition or nutritive value of the grain or forage had occurred as an unintended result of

transformation or expression of the transgenes in Bt11 x GA21 maize.

These data support the conclusion that Bt11 x GA21 maize is compositionally equivalent to conventional maize, apart from the introduced traits of insect and herbicide tolerance.

7.4 Agronomic traits

The scope of the application does not include cultivation, however measurement and observation of agronomic characteristics can add to the assessment of unintended effects of the genetic modification.

Bt11 x GA21 maize were evaluated in a series of trials across the USA in 2005. Up to 20 separate agronomic traits were assessed, although not all traits were recorded at all locations. The Bt11 x GA21 maize and their near isogenic hybrids were compared. Results of these trials suggest that there is no statistically significant difference in grain yield or agronomic performance between the Bt11 x GA21 maize hybrids and the corresponding near-isogenic hybrids.

These data support the conclusion that Bt11 x GA21 maize is agronomically equivalent to conventional maize, apart from the introduced traits of insect and herbicide tolerance.

7.5 Product specification

Maize as a product has a history of safe use for human food and animal feed. No significant native toxins are reported to be associated with the genus *Zea*. The information presented in this application confirms that Bt11 x GA21 maize and products derived from it are not different from those of its conventional counterpart.

7.6 Effect of processing

Maize from Bt11 x GA21 will be produced and processed in the same way as any non-GM maize and there is no evidence to suggest that the expression of the Cry1Ab, PAT and mEPSPS proteins will influence this processing in any way.

7.7 Anticipated intake/extent of use

There are no anticipated changes to the intake/extent of use of maize as a result of the introduction of Bt11 x GA21 maize to the conventional maize supply. It is anticipated that

the introduction of Bt11 x GA21 maize will replace some of the maize in existing food and feed products. However, the genetic modification was not intended to change any of the compositional parameters in food and feed and this been shown to be the case through extensive compositional assessment.

7.8 Toxicology

7.8.1 Safety assessment of newly expressed proteins

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding and therefore expresses the three proteins found in Bt11 and GA21 maize. Potential adverse effects to human and animal health arising from Cry1Ab, PAT and mEPSPS have previously been assessed and it was concluded that the potential toxic effects to humans and animals of Cry1Ab, PAT and mEPSPS could be considered negligible. A summary is provided below:

- The recipient organism, maize, has a history of safe use throughout the world.
- None of the gene sequences or their donors are known to be pathogenic to humans and no pathogenic sequences have been introduced.
- The Cry1Ab, PAT and EPSPS proteins are ubiquitous in nature and will naturally be present in foods derived from plant and microbial sources.
- The Cry1Ab, PAT and EPSPS proteins have no significant amino acid homology to known mammalian protein toxins
- The Cry1Ab, PAT and EPSPS are readily degraded in *in vitro* digestibility assays.
- The Cry1Ab, PAT and EPSPS proteins show no acute oral toxicity in mammalian studies

7.8.2 Testing of new constituents other than proteins

Maize is a common source of food and feed and has a long history of safe use. Bt11 x GA21 maize has been modified to express the Cry1Ab, PAT and mEPSPS proteins. No other new constituents apart from these proteins are expected to be produced in Bt11 x GA21 maize and compositional analyses have confirmed the substantial equivalence of Bt11 x GA21 maize compared to conventional maize. Therefore no testing of any other constituent is considered necessary.

7.8.3 Information on natural food and feed constituents

The presence and levels of natural food and feed constituents such as macro- and micronutrients, secondary plant metabolites as well as natural toxins and antinutritional factors have been analysed and compared with non-genetically modified isolines and data from the literature.

These analyses showed that the levels of the components measured had not changed beyond the natural variation in maize. No consistent patterns emerged to suggest that biologically

significant changes in composition or nutritive value of the grain or forage had occurred as an unintended result of the expression of the transgenes.

7.8.4 Testing of the whole GM food/feed

In addition to the compositional analysis, the wholesomeness and safety of Bt11 x GA21 maize was confirmed in a poultry feeding study. The study showed that the transgenic corn had no deleterious effects on broiler chickens.

7.9 Allergenicity

7.9.1 Assessment of allergenicity of the newly expressed protein

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding and therefore expresses the three proteins found in Bt11 and GA21 maize. Potential allergenic potential arising from Cry1Ab, PAT and mEPSPS have previously been assessed and it was concluded that the potential allergenic potential to humans and animals of Cry1Ab, PAT and mEPSPS could be considered negligible. A summary is provided below:

- None of the three proteins expressed in Bt11 x GA21 come from donors with allergenic potential.
- The Cry1Ab, PAT and EPSPS proteins has no significant amino acid homology to known allergens
- The Cry1Ab, PAT and EPSPS are readily degraded in *in vitro* digestibility assays.

From these data, it can be concluded that the Cry1Ab, PAT and mEPSPS proteins expressed in Bt11 x GA21 maize plants are highly unlikely to be allergenic.

7.9.2 Assessment of allergenicity of the whole GM plant or crop

Maize has been extensively cultivated and has a history of safe use for human food and animal feed. Maize is not considered to be an allergenic food crop and Bt11 x GA21 maize does not express any new proteins with allergenic characteristics.

7.10 Nutritional assessment of GM food/feed

7.10.1 Nutritional assessment of GM food

Bt11 x GA21 maize is not intended to change the nutritional status of individuals of populations or to be processed in products with enhanced functionality. Compositional analysis and whole food safety tests have demonstrated that no unexpected alterations in nutrients and other food components have occurred and that no nutritional imbalances were introduced.

7.10.2 Nutritional assessment of GM feed

Bt11 x GA21 is not intended to change the nutritional status of livestock animals. Compositional analysis and whole food safety tests have demonstrated that no unexpected alterations in nutrients and other food components have occurred and that no nutritional imbalances were introduced.

7.11 Post-market monitoring of GM food/feed

As described in sections 7.1 to 7.10 above, the presence of Bt11 x GA21 maize in food and feed will not result in any nutritional changes, therefore post-market monitoring is not considered necessary.

8. Mechanism of interaction between the GM plant and target organisms (if applicable)

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding. Therefore Bt11 x GA21 maize plants express the three transgenic proteins present in Bt11 maize and GA21 maize: Cry1Ab, PAT and mEPSPS. The Cry1Ab protein confers protection against certain lepidopteran pest species such as ECB and MCB and it is well known for its specificity to insects from the order Lepidoptera. The other two proteins expressed in Bt11 x GA21 maize, PAT and mEPSPS are not known to have any adverse effects on organisms. Therefore the target organisms for Bt11 x GA21 maize are the same as those for the individual events and are limited to certain species of Lepidoptera.

The cultivation of Bt11 x GA21 maize is not within the scope of this application, therefore plant interactions with target organisms are highly unlikely in the EU. In the unlikely event that small amounts of Bt11 x GA21 maize grain could accidentally find their way into the environment this would represent extremely low levels of exposure and the survival of this grain would be very unlikely. Any plants germinating from this grain could be easily controlled using any of the current agronomic measures taken to control other commercially available maize. Therefore Bt11 x GA21 maize is extremely unlikely to germinate and survive outside agricultural environments and its potential to interact with target species is very low.

9. Potential changes in the interactions of the GM plant with the biotic environment resulting from the genetic modification

9.1 Persistence and invasiveness

Cultivation of maize derived from Bt11 x GA21 maize in the EU is not within the scope of this application. In the unlikely event that small amounts of maize kernels of Bt11 x GA21 maize accidentally found their way into the environment their survival would be very unlikely

as maize is highly domesticated and cannot survive without human intervention, especially under normal European climatic conditions. The expression of the Cry1Ab, PAT and mEPSPS proteins does not affect the agronomic characteristics or weediness potential of Bt11 x GA21 maize, as demonstrated in field trials conducted to evaluate the agronomic performance in comparison with the isogenic control. In the unlikely event that these maize plants were to survive they could be easily controlled using any of the current agronomic measures taken to control other commercially available maize.

In summary, the probability of the genetically modified plants becoming more persistent than the recipient or parental plants in agricultural habitats or more invasive in natural habitats as a result of importing maize kernels of this event into the EU can be considered negligible.

9.2 Selective advantage or disadvantage

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding. No new genetic modification has therefore taken place in Bt11 x GA21 maize and, as intended, the plants produce the three proteins present in Bt11 maize and GA21 maize plants: Cry1Ab, PAT and mEPSPS.

Expression of the Cry1Ab protein, conferring resistance to corn borers, in areas of Europe where these are important maize pests, could be considered an advantage over conventional maize. However maize is a highly domesticated plant and cannot survive without human intervention, even in areas without pressure from these target pests. Therefore, expression of Cry1Ab will not increase the chances of maize survival under European conditions and would not confer any selective advantage.

The PAT and mEPSPS proteins confer tolerance to herbicide products containing glufosinate ammonium and glyphosate respectively. Their expression could confer advantage to Bt11 x GA21 maize plants when these herbicides are applied. However this rarely happens outside agricultural environments and therefore it is highly unlikely that expression of these proteins would confer selective advantage to Bt11 x GA21 maize plants.

Cultivation of Bt11 x GA21 maize in the EU is not within the scope of this application. In the unlikely event that small amounts of grain from Bt11 x GA21 maize could accidentally find their way into the environment in the EU, the survival of this grain would be very unlikely for the reasons stated above. In addition, any plants germinating from this grain could be easily controlled using any of the current agronomic measures taken to control other commercially available maize.

In summary, the likelihood that the expression of the lepidopteran pest protection traits or the herbicide tolerant traits in Bt11 x GA21 maize will result in a selective advantage or disadvantage compared with conventional maize, under the scope of this application, can be considered negligible.

9.3 Potential for gene transfer

Gene transfer from Bt11 x GA21 maize to other sexually compatible plant species is not possible since there are not any maize wild relatives in the EU.

Gene transfer from Bt11 x GA21 maize to other maize could occur through pollen dispersal during the cultivation of the crop. Maize is predominantly wind pollinated. Plants produce pollen for 10-13 days and shed pollen typically remains viable only a short time. 98% of pollen settles to the ground within 25-50 meters of its source. Cultivation of Bt11 x GA21 maize is not within the scope of this application. It is therefore highly unlikely that this maize could grow in any significant quantity in the EU. In the unlikely event that small amounts of grain from Bt11 x GA21 maize could accidentally find their way into the environment this would represent extremely low levels of exposure and the survival of these grains would be very unlikely for the reasons stated above. In addition, they could be easily controlled using any of the current agronomic measures taken to control other commercially available maize. Therefore maize derived from Bt11 x GA21 maize is extremely unlikely to flower and fertilise other varieties of maize in Europe.

In summary, the potential for gene transfer between Bt11 x GA21 maize plants and other maize plants or sexually compatible wild relatives in the EU can be considered negligible under the scope of this application.

9.4 Interactions between the GM plant and target organisms

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU, therefore interactions between Bt11 x GA21 maize and target organisms are highly unlikely.

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding and therefore Bt11 x GA21 maize expresses the three transgenic proteins present in Bt11 maize and GA21 maize: Cry1Ab, PAT and mEPSPS. The Cry1Ab protein confers protection against ECB and MCB and it is well know for its specificity to certain insects of the order Lepidoptera. The other two proteins expressed in Bt11 x GA21 maize: PAT and mEPSPS are not known to have any adverse effects on organisms.

In summary, immediate or delayed effects in the environment due to direct or indirect interactions between Bt11 x GA21 maize plants and target organisms can be considered highly unlikely under the scope of this application.

9.5 Interactions of the GM plant with non-target organisms

The scope of this application does not include the cultivation of Bt11 x GA21 maize in the EU, therefore interactions between Bt11 x GA21 maize and non-target organisms are highly unlikely.

Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through

conventional breeding. The potential for adverse effects due to interactions between Bt11 maize or GA21 maize and non-target organisms have been previously assessed and it was concluded that the import and use of Bt11 maize and GA21 maize are highly unlikely to result in interactions between Bt11 maize and GA21 maize plants and non-target organisms in the EU.

The Cry1Ab protein confers protection against certain lepidopteran pest species such as ECB and MCB. Cry1Ab is well known for its specificity to certain insects of the order Lepidoptera and no adverse effects on other non-target organisms have been reported.

The other two proteins expressed in Bt11 x GA21 maize: PAT and mEPSPS are not known to have any adverse effects on organisms.

In the unlikely event that small amounts of Bt11 x GA21 maize grain accidentally found their way into the environment this would represent extremely low levels of exposure and the survival of this grain would be very unlikely. Any plants germinating from this grain could be easily controlled using any of the current agronomic measures taken to control other commercially available maize. Therefore Bt11 x GA21 maize is extremely unlikely to germinate and survive outside agricultural environments and its potential to interact with non-target species is very low.

In summary, immediate or delayed effects in the environment due to direct or indirect interactions between Bt11 x GA21 maize plants and non-target organisms can be considered highly unlikely under the scope of this application.

9.6 Effects on human health

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU, therefore exposure to this maize is most likely to occur through ingestion of food containing Bt11 x GA21 maize. Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding. The potential for adverse effects on human health of Bt11 maize or GA21 maize have been previously assessed in risk assessments and it has been concluded that the potential for adverse effects on human health from consumption of Bt11 maize or GA21 maize are negligible.

In addition, compositional analysis and broiler feeding studies have confirmed that the Bt11 x GA21 maize is equivalent in composition to conventional maize and as safe and nutritious as conventional maize.

There is no reason to anticipate that conventional breeding of Bt11 maize and GA21 maize would result in a stacked product that differs in toxicity or allergenic potential to humans or animals. None of the proteins expressed by Bt11 maize and GA21 maize are known to be toxic or allergenic to humans or animals and there are not known precedents where interactions between non-toxic proteins lead to toxic effects. Throughout all the tests conducted by Syngenta with Bt11 x GA21 no evidence of interaction between the three proteins produced by these plants (Cry1Ab, PAT and mEPSPS) has been observed.

In summary, no adverse effects on human health or adverse consequences for the food chain are expected following consumption of food consisting or containing Bt11 x GA21 maize.

9.7 Effects on animal health

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU, therefore exposure to this maize is most likely to occur through ingestion of feed containing Bt11 x GA21 maize. Bt11 x GA21 maize was produced by combining Bt11 maize and GA21 maize through conventional breeding. The potential for adverse effects on animal health of Bt11 maize or GA21 maize have been previously assessed in risk assessments and it has been concluded that the potential for adverse effects on animal health from consumption of Bt11 maize or GA21 maize are negligible.

In addition, compositional analysis and broiler feeding studies have confirmed that the Bt11 x GA21 maize is equivalent in composition to conventional maize and as safe and nutritious as conventional maize.

There is no reason to anticipate that conventional breeding of Bt11 and GA21 would result in a stacked product that differs in toxicity or allergenic potential to humans or animals. None of the proteins expressed by Bt11 and GA21 are known to be toxic or allergenic to humans or animals and there are not known precedents where interactions between non-toxic proteins lead to toxic effects. Throughout all the tests conducted by Syngenta with Bt11 x GA21 plants, no evidence of interaction between the three proteins produced by these plants (Cry1Ab, PAT and mEPSPS) has been observed.

In summary, no adverse effects on animal health or adverse consequences for the feed chain are expected following consumption of feed consisting or containing Bt11 x GA21 maize.

9.8 Effects on biogeochemical processes

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU. Interactions with target or non-target organisms that could lead to effects on biogeochemical processes are therefore highly unlikely.

In the unlikely event that small amounts of grain of Bt11 x GA21 maize accidentally found their way into the EU environment, their survival would be very unlikely, as maize is a highly domesticated plant and cannot survive without human intervention, especially under normal European climatic conditions. Moreover, these plants could be easily controlled using any of the current agronomic measures taken to control other commercially available maize. In the unlikely event that some Bt11 x GA21 maize plants survived, the potential effects on biogeochemical processes as a result of interactions with target and non-target organisms are likely to be the same as those effects resulting from cultivation of non-modified maize.

In summary, the risk of adverse effects on biogeochemical processes resulting from

interactions of Bt11 x GA21 maize and target or non-target organisms can be considered negligible under the scope of this application.

9.9 Impacts of the specific cultivation, management and harvesting techniques

The scope of this application does not include cultivation of Bt11 x GA21 maize plants in the EU; therefore there are no specific cultivation, management and harvesting techniques for the use of Bt11 x GA21 maize in the EU.

10. Potential interactions with the abiotic environment

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU; therefore interactions of maize Bt11 x GA21 with the abiotic environment are highly unlikely. In the unlikely event that small amounts of grain of Bt11 x GA21 maize accidentally found their way into the EU environment, their survival would be very unlikely, as maize is a highly domesticated plant and cannot survive without human intervention, especially under normal European climatic conditions. Moreover, these plants could be easily controlled using any of the current agronomic measures taken to control other commercially available maize. In the unlikely event that some Bt11 x GA21 maize plants survived, the potential effects on the abiotic environment are likely to be the same as those effects resulting from cultivation of non-modified maize.

In summary, environmental impacts as a result of interactions between Bt11 x GA21 and the abiotic environment can be considered negligible within the scope of this application.

11. Environmental monitoring plan (not if application concerns only food and feed produced from GM plants, or containing ingredients produced from GM plants and if the applicant has clearly shown that environmental exposure is absent or will be at levels or in a form that does not present a risk to other living organisms or the abiotic environment)

11.1 General (risk assessment, background information)

The scope of this application does not include cultivation of Bt11 x GA21 maize in the EU. Environmental exposure to Bt11 x GA21 maize could only occur in the unlikely event that small amounts of grain of Bt11 x GA21 maize accidentally found their way into the environment in the EU. However, the survival of this grain would be very unlikely as maize is a highly domesticated plant and cannot survive without human intervention, especially under normal European climatic conditions. This grain, if germinated could be easily controlled using any of the current agronomic measures taken to control other commercially available maize.

An environmental risk assessment (e.r.a) for each of the individual genetically modified (GM) maize used to produce Bt11 x GA21 maize has previously been conducted as part of the application for the import and use under Regulation (EC) No 1829/2003.

These risk assessments were conducted as recommended by the Guidance document of the Scientific Panel of Genetically Modified Organisms for the risk assessment of genetically modified plants and derived food and feed and taking into account the scope of the applications. The conclusion of these risk assessments was that the effects to the environment arising from the import and use of either Bt11 maize or GA21 maize could be considered as negligible as those from any other commercial maize.

A risk assessment for the stacked Bt11 x GA21 maize has also been conducted following the same Guidance document and taking into account the recent Guidance Document of the Scientific Panel on Genetically Modified Organisms for the risk assessment of genetically modified plants containing stacked transformation events. Risk assessment concepts described in recent publications have also been used.

The conclusions of the e.r.a. confirm that the effects to the environment arising from the use of Bt11 x GA21 maize will be no different to those from any other commercial maize.

11.2 Interplay between environmental risk assessment and monitoring

In general two types of environmental monitoring can be described:

a. case-specific monitoring, designed to evaluate potential adverse effects linked to the genetic modification, identified in the e.r.a.
b. general surveillance, which is aimed to identify adverse unforeseen effects that were not anticipated in the environmental risk assessment.

An environmental risk assessment (e.r.a.) has been conducted in accordance with Annex II of Directive 2001/18/EC and takes into account the recent Guidance Document of the Scientific Panel on Genetically Modified Organisms for the risk assessment of genetically modified plants containing stacked transformation events to evaluate potential adverse effects of Bt11 x GA21 maize on human and animal health and the environment. The conclusions of this e.r.a. confirm that the potential risks to human and animal health or the environment arising from the placing on the market of Bt11 x GA21 maize can be considered negligible. Therefore, a case-specific monitoring plan is not considered necessary under the scope of this application. However, a general surveillance plan based on Annex II of the Directive 2001/18/EC is outlined below.

11.3 Case-specific GM plant monitoring (approach, strategy, method and analysis)

An environmental risk assessment (e.r.a.) has been conducted in accordance with Annex II of Directive 2001/18/EC to evaluate potential adverse effects of Bt11 x GA21 maize on human

and animal health and the environment. The conclusions of this e.r.a. confirm that the potential risks to human and animal health or the environment arising from the placing on the market of Bt11 x GA21 maize can be considered negligible, under the scope of this application. Therefore, a case-specific monitoring plan is not considered necessary under the scope of this application. However, a general surveillance plan based on Annex II of the Directive 2001/18/EC is outlined below.

11.4 General surveillance of the impact of the GM plant (approach, strategy, method and analysis)

The objective of general surveillance is to identify unforeseen adverse effects of the GM plant or its use, on human health and the environment, which were not predicted in the risk assessment. The scope of this application is limited to import of Bt11 x GA21 maize and excludes cultivation practices. Cultivation outside the EU is accompanied by stewardship and surveillance programmes which include the provision of information to traders and processors of bulk mixtures of grain.

The provisions concerning traceability and labelling for placing on the market of Bt11 x GA21 maize will allow the prompt identification of products containing or consisting of this maize, and thus enable any unanticipated adverse effects to be effectively traced.

The majority of imported Bt11 x GA21 maize material will be used for feed purposes. Therefore, traders and processors as well as the European feed industry serve as a good focal point to address questions related to any unanticipated effects that might be associated with the use of Bt11 x GA21 maize.

Syngenta is committed to inform traders, processors and the European feed and food industry with details on the safety of Bt11 x GA21 maize and to establish a communication network where unforeseen effects can be reported. If unusual observations are reported, more focussed in-depth studies can be carried out in order to determine cause and relationship with the specific event. Final decisions on whether any identified effects are significant can only be made if causality is clear and endpoints are determined.

Although not a formal part of the surveillance plan, it is appropriate to note that there is an extensive information network, with global reach, which will provide additional information on possible adverse effects arising from the use of GM crops. These include new and rapid means of access to information from across the globe through telecommunications, the media and Internet access. Through these means, many groups, including agronomists, ecologists, health professionals, and the general public now have unprecedented access to reports on the use world-wide of GM crops. In addition, electronic discussion sites, for example those of WHO, OECD, FAO, and consumer organisations, are valuable sources of information and communication for professionals and, in many cases, the general public.

11.5 Reporting the results of monitoring

The notifier/consent holder is responsible, under Regulation (EC) No 1829/2003, to inform the Commission of the results of the surveillance. Consistent with the EFSA guidance, the

notifier will submit a General Surveillance Report containing information related to the monitoring on an annual basis.

12. Detection and event-specific identification techniques for the GM plant

The Bt11 x GA21 maize described in this application has been produced by crossing the genetically modified Bt11 maize and GA21 maize through conventional breeding techniques. There was no further genetic modification to produce the stack. As such the detection methods developed for the single events should be appropriate for use on the stacked event.

A method for detection of Event GA21 has been developed by Syngenta. The proposed method is a real-time quantitative TaqMan® PCR based on specific detection of Event GA21 genomic DNA. This has been validated by the DG JRC-CRL. In addition, a method for detection of Event Bt11 has been developed by Syngenta and submitted to the DG JRC-CRL for validation. Information relating to the applicability of the single event methods for use on the stacked product has been submitted to the DG JRC-CRL.

E. INFORMATION RELATING TO PREVIOUS RELEASES OF THE GM PLANT AND/OR DERIVED PRODUCTS

1. History of previous releases of the GM plant notified under Part B of the Directive 2001/18/EC and under Part B of Directive 90/220/EEC by the same notifier

Syngenta has not previously carried out field trials of Bt11 x GA21 in the EU.

2. History of previous releases of the GM plant carried out outside the Community by the same notifier

a) Release country Bt11 x GA21 can be grown commercially in the US and Canada. In addition, field trials have been carried outside the European community in Argentina and China.
b) Authority overseeing the release Ministry of Agriculture
c) Release site Various
d) Aim of the release Research and development trials
e) Duration of the release Varied dependant on the Consent

f) Aim of post-releases monitoring To confirm the assumptions of the Environment risk assessment and the management procedures for example in the control of volunteers.
g) Duration of post-releases monitoring Varied dependant on the Consent, typically 1 year.
h) Conclusions of post-release monitoring Ongoing
i) Results of the release in respect to any risk to human health and the environment No incidences of adverse effects to human health or the environment have been found.

3. Links (some of these links may be accessible only to the competent authorities of the Member States, to the Commission and to EFSA):

a) Status/process of approval The status and process of approval can be found on the EFSA website: http://www.efsa.europa.eu/EFSA/ScientificPanels/GMO/efsa_locale-1178620753812_GMOApplications.htm
b) Assessment Report of the Competent Authority (Directive 2001/18/EC) An application for approval of Bt11 x GA21 maize under the Directive 2001/18/EC has not been made by Syngenta.
c) EFSA opinion An EFSA opinion on Bt11 x GA21 maize was not available at the time of submission. EFSA opinions, once available can be found at http://www.efsa.europa.eu/EFSA/ScientificPanels/GMO/efsa_locale-1178620753812_GMOApplications.htm
d) Commission Register (Commission Decision 2004/204/EC) The Commission register of GM Food and Feed can be found at http://ec.europa.eu/food/food/biotechnology/authorisation/index_en.htm
e) Molecular Register of the Community Reference Laboratory/Joint Research Centre The Community Reference Laboratory webpage is http://gmo-crl.jrc.it/
f) Biosafety Clearing-House (Council Decision 2002/628/EC) Information relating to the Biosafety clearing house can be found at: http://bch.biodiv.org/
g) Summary Notification Information Format (SNIF) (Council Decision 2002/812/EC) An application for approval of Bt11 x GA21 maize under the Directive 2001/18/EC has not been made by Syngenta, however a link to this Summary under Regulation (EC) No 1829/2003, should be found at: http://www.efsa.europa.eu/EFSA/ScientificPanels/GMO/efsa_locale-1178620753812_GMOApplications.htm.