



Changes are **highlighted**

GTP temporary monitoring for aflatoxin in maize crops and maize co-products derived thereof in feed materials

1. Introduction

High levels of Aflatoxin B1 levels in feed material are a real safety issue for the European Feed sector and the last years RASSF alerts and crisis showed that a more stringent monitoring of such risk is needed in order to assure safe feed material to our customers. This situation has resulted in the need for the GTP Certified Operators to follow some specific ad-hoc testing protocols, such as this new Version of our GTP Code addendum, to better monitor such risks, in coordination with other stakeholders of our maize and maize co-products feed material supply chain.

This protocol covers **supply of maize and maize co-products for feed uses**.

In order to cover the potential risk for Aflatoxin occurrence in maize from any origin, the protocol has been revised.

This protocol will be applicable until further notice.

2. Existing legal requirements

The applicable EU maximum limits for aflatoxin are:

For maize and maize co-products to be used as feed materials (as per amended version of Directive 2002/32/EC)

- 20 ppb for aflatoxin B1 (based on feed materials with a moisture content of 12 %).

3. Scope of application

3.1 Companies concerned

GTP certified companies carrying out the following activities must apply the provisions laid down in this addendum to the currently applicable version of the GTP:

- Trading and Collection of maize originating from countries listed in Annex 2 and the maize co-products derived thereof;

3.2 Products concerned

The protocol described further below is applicable to:

- Maize (grains of *Zea mays* L. ssp. *mays*.) or maize co-products destined to be used as feed materials directly or after processing.

3.3. Origin

The selection of countries listed in Annex 2 was based on the origin of the maize supply as mentioned in the RASFF notifications and on the Aflatoxin data collected from certified companies from the maize crop.

3.4 Boundaries

This protocol is applicable to intra-EU shipments of maize and maize co-products as well as shipments of maize and maize co-products from third countries to the EU territory.

3.5 Derogation

This protocol does not apply to maize and/or maize co-products which have

- already been sampled and analysed for aflatoxin B1 in compliance with the present GTP protocol
- or from other mutually recognized or equivalent schemes (listed in Reference 2 in the [GTP Code](#)) which have an aflatoxin protocol.

In this case, the company purchasing the maize and/or maize co-products must be informed about the analysis results of the delivered batch by means of a certificate of analysis from a laboratory which conforms to the requirements of this protocol under section 7.

The following conditions must however be fulfilled:

- The report analysis must explicitly indicate the same identification of the batch;
- The sampling method used as requirements referred to in section 5;
- The laboratory complies with requirements referred to in section 7.

4. Risk classification

Countries of cultivation of maize included in Annex 2 are classified into four categories: “High”, “Medium”, “Low” and “Risk estimate to be established”. Sampling must be performed in accordance with the requirements in point 5. and 6. of the current protocol.

Operator loading for first time a cargo from a new country not listed yet as high, medium or low risk, has to implement 100% monitoring for aflatoxin B1 and once results are available, to classify the origin as “Low”, “Medium” or “High” with transmission of the information to GTP with testing results which support the classification. At least results of two vessels’s testing from the same origin are needed in order to set a final classification.

Table 1. Risk levels for feed

Risk level by country	1. Maize destined to feed directly or after processing 2. Maize co-products derived from maize originating from countries listed under Annex 2 of this protocol Aflatoxin B1
High	Country is known Harvest year is known Aflatoxin detected above MRL in historical crops ¹ or the current crop Aflatoxin B1 m= 15 ppb, M=20 ppb, c=10%
Medium	Country is known Harvest year is known Regularly Aflatoxin detected in historical crops ¹ or the current crop Aflatoxin B1 m= 10 ppb, M=15 ppb, c=10%

¹Historical data is the monitoring data available from the last three years

Low	Country is known Harvest year is known Low detection of Aflatoxin in historical crop ¹ or the current crop Always below 2 ppb Aflatoxin detected in corn of the historical crop ¹ or the current crop Aflatoxin B1 m= 5 ppb, M=10 ppb, c=10%
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m = limit in ppb

M = max limit in ppb

c = maximum amount of samples which can be over m, but under M

In accordance with the precautionary principle, GTP certified companies must be vigilant and assess the possible aflatoxin risk when purchasing/selling maize, especially from countries not listed in Annex 2. In case of doubt about the country of cultivation (country of cultivation is unknown or not known with certainty), 100% monitoring applies until otherwise classified.

The latest version of the Annex 2 List of countries, published on the website of GTP, is the valid version.

5. Monitoring, sampling and analysis

If a GTP certified operator has information that a certain country has a lower or a higher risk than the one indicated in the table in Annex 2, he must inform GTP management supporting its statement by relevant data and any additional information available. It is the responsibility of the operator to apply the relevant addition controls that he might deem necessary.

5.1 Monitoring frequency

Based on the defined risk level, the operator shall respect the following monitoring frequency:

Table 2. Monitoring frequency

Risk estimate to be established	100% monitoring. Send data to COCERAL/GTP until a country is categorized
High	100 % monitoring
Medium	100 % monitoring
Low	Based on the operators risk assessment as described in the GTP Code, Annex 1

5.2 When collecting maize in warehouses located in the countries “at risk”

If collection is done on the basis of receipt of truck, batches and wagons, all incoming trucks or trains should be sampled according to point 6 in the current protocol based on applicable GAFTA 124 contract rules or in accordance with [Commission Regulation \(EU\)691/2013](#) amending [Regulation \(EC\) 152/2009](#).

- If the test results are above the EU maximum limits applicable for the foreseen feed use of the products, the cargo will be rejected. The suppliers and the authorities shall be duly and quickly informed as per applicable local regulations or rules. If the results are confirmed, the relevant authorities and the GTP management should be informed.

5.3. When purchasing maize and/or maize co-products on an in or ex-warehouse basis

Each batch/cell of the cargo in the warehouse will be sampled. The batch tested should not be physically delivered to EU locations of customers as long as the analysis results are unknown or if results are not compliant with EU maximum limits for aflatoxins in feed materials². The stored batches will remain in quarantine pending the results. If the whole batch in the warehouse is not accessible for sampling, a sampling plan should be made and documented, that covers the accessible part of the batch. The part of the batch that has not yet been sampled and tested, should be monitored once it's possible and safe to get access.

- If the results are compliant with EU maximum limits, the tested batches can be loaded into sea going vessels, inland waterway transports or trucks or railways without further testing, as long as all measures are taken to preserve the identity of the concerned batches. These analyses done before loading will be accepted as long as sampling/analyses have been done no more than three months prior to the delivery.
- If the results are above EU maximum limits for the intended use, the suppliers and the authorities shall be duly and quickly informed as per applicable local regulations or rules. If the results are confirmed, the relevant authorities and the GTP management should be informed.
- In case of stored batches and reanalysis after 3 months, the highest measured Aflatoxin B1 value (from all sampling moments) is leading since it is not obvious that Aflatoxin B1 content could decrease over time. All analysis results applicable for the batch (also the expired ones) must accompany the batch.

Testing results are to be supplied to the concerned customers, on request.

The remainder of each aggregated samples should be also sealed, duly labelled and kept in adequate storage conditions as indicated in the GTP Code. Finally, this requirement is not applicable to samples taken during collection if made on a truck per truck or wagon per wagon basis. Samples must be stored at a temperature that will not alter their composition and in such conditions that the samples are not adversely affected by light.

5.4 Loading (or unloading) of a seagoing vessel or of an Inland waterway transport

The batches tested should not be physically delivered to EU locations of customers as long as the analysis results are unknown or if results are not compliant with EU maximum limits for aflatoxins in feed materials. In case of 100% monitoring applied for high risk and when the test results are not available, unloading or transshipment into barges or warehouses, for temporary quarantine, are allowed as long as products are not delivered to customers. The analysis results for the other categories will be available upon request.

- If the results are compliant with EU maximum limits, the tested batches can be shipped/unloaded/released/marketed/used. Additional local testing requirements must be taken into account, where appropriate.
- If the results are above EU maximum limits for the intended use, and if the results of the testing at loading are available prior to the arrival of the transport at destination, then a full re-testing of the cargo should be done, using the same methodology /procedure previously described, in order to ascertain newly the exact safety status of the cargo. If the results are confirmed, the relevant authorities and the GTP management should be informed.

Available testing results are to be supplied to the concerned customers, on request.

² In cases where maize is stored longer than 3 months in a silo and is not accessible for sampling before delivery to the customer, sampling may be carried out during loading. The results must be available before unloading at the customer or at least before the next processing step or feeding (if there is a written agreement between the seller and the customer).

The remainder of each aggregated samples should be also sealed, duly labelled and kept in adequate storage conditions as indicated in the GTP Code. Samples must be stored at a temperature that will not alter their composition and in such conditions that the samples are not adversely affected by light.

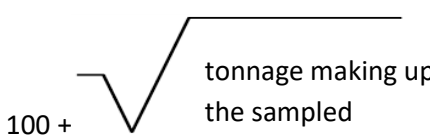
6. Table overview of sampling requirements

6.1 As per GAFTA 124 contractual rules

	Trucks	Trains	Barges/coasters	Vessels
Sampling point	Representative sample should be taken at loading or unloading of the transport means ³			
Batchmax size	1000 mt	1500 mt	1 final sample per barge	1 final sample per hold
Minimum number of incremental samples	<p>Minimum 5 incremental samples per truck when weight of truck <15 mt.</p> <p>Minimum 8 incremental samples per truck when truck weight >15 mt.</p> <p>A minimum of 40 incremental samples should be taken per parcel of various trucks.</p>	<p>Minimum 20 incremental samples every 500 metric tons sub lot, ensuring a minimum of 40 incremental samples in case the parcel is below 1000 mt</p>		
Weight of each incremental sample	Max 1 kg			
Minimum bulk aggregate sample per lot	Min 20 kg sample per sub-lot of 500 mt (batch size 0 to 5000 mt) or min 30 kg per sub-lot of 1000 mt (batch size 5001 to 10 000 mt)			
Final sample	<p>Min 1 sample of min 4kg to be fully grinded by the laboratory and well homogenized before extraction of the final sample (at least 500 grams).</p> <p>(For contractual samples required for analysis tests and arbitration purpose as of GAFTA Sampling Rules No. 124: min. 10kg)</p>			
Sample for the analysis	The sample for the analysis is prepared from the final sample. The remains of the final sample have to be retained for re-analysis			
Analyses	To be done by laboratory accredited according ISO 17025			
Sampling	To be done by an inspection company accredited according to ISO 17020 or according an ISO 9001 certified + GAFTA approved body			

³Analyses done before loading will be accepted as long as sampling/analyses has been done no more than threemonths prior to the loading operation

6.2 As per [Commission Regulation \(EU\) 691/2013](#) amending [Commission Regulation \(EC\) 152/2009](#)

	Trucks	Trains	Barges/coasters	Vessels
Sampling point	Representative sample should be taken at loading or unloading of the transport means ⁴			
Batchmax size	1000 mt	1500 mt	1 final samples per barge	1final samples per hold
Minimum number of incremental samples	<p>Minimum 5 incremental samples per truck when weight of truck <15 mt.</p> <p>Minimum 8 incremental samples per truck when truck weight >15 mt.</p> <p>A minimum of 40 incremental samples should be taken per parcel of various trucks.</p>			
Weight of each incremental sample	Max 1 kg			
Minimum bulk aggregate sample per lot	Min 4 kg			
Final sample to be analysed	<p>Aggregate sample can be representatively reduced to at least 4kg to be fully grinded by the laboratory and well homogenized before extraction of the sample for the analysis (at least 500 grams).</p> <p>(Recommended volume is 10kg which would lead to less false negatives and positives)</p>			
Sample for the analysis	The sample for the analysis is prepared from the final sample. The remains of the final sample have to be retained for re-analysis			
Analyses	To be done by laboratory accredited according ISO 17025			
Sampling	To be done by an inspection company accredited according to ISO 17020 or according an ISO 9001 certified + GAFTA approved body			

7. Analysis requirements

Samples must be analysed on aflatoxin B1 level. This analysis must be carried out by a laboratory which is accredited according to ISO17025 for the aflatoxin analysis in the products covered by this protocol.

⁴Analyses done before loading will be accepted as long as sampling/analyses has been done no more than three months prior to the loading operation

8. Reporting analysis results

GTP certified companies must report every month to EFISC-GTP (fulvio.pernice@efisc-gtp.eu) the analysis results in line with the GTP monitoring template. Collected data will be handled with confidentiality. They will be compiled into an internal monitoring database for the products covered by this protocol as per rules stated in paragraph 4 of this addendum. Collected data will only be shared anonymously and in the framework of the mutual recognition between scheme owners. If the results show level of aflatoxin above the EU maximum limits, requirements laid down in the currently applicable GTP Code must be complied with.

9. Definitions

Lot (or Batch): an identified quantity of a product, determined to have common characteristics, such as origin, variety, type of packing, packer, consignor or labelling, and in case of a production process, a unit of production from a single plant using uniform production parameters or a number of such units, when produced in continuous order and stored together (Commission Regulation (EC) No 767/2009 as amended). Based on the above statement, the batch is to be defined by the operator based on the physical hold (ship compartment) or a combination of holds (train, truck).

Sampled portion: a lot or an identified part of the lot and/or of the sub-lot.

Sealed sample: a sample sealed in such a manner as to prevent any access to the sample without breaking or removing the seal. The seal's mark should be clearly identifiable and clearly visible. Alternatively, the sample can be put in a recipient which can be closed in such a manner that it cannot be opened without irreversibly damaging the recipient, avoiding the re-use of the recipient.

Identification of the sample: the sample has to be indelibly marked and must be identified in such a way that there is an unambiguous link to the sampling report.

Incremental sample: a quantity taken from one point in the sampled portion.

Aggregate sample: an aggregate of incremental samples taken from the same sampled portion. From each aggregate sample at least two (or three) final samples are taken: 1 for control (enforcement), one for trade (defence) and eventually one for reference

Reduced sample: a part of the aggregate sample, obtained from the latter by a process of representative reduction.

Final sample: a part of the reduced sample or of the homogenised aggregate sample.

Laboratory sample: a sample intended for the laboratory (as received by the laboratory) and can be the final, reduced or aggregate sample.

Test aliquot: a measured portion of the final sample taken for analysis.

Annex 1 - Internal procedures to define or change risk categories

GTP Harmonisation Committee will evaluate the risk classification on a monthly basis based on the criteria as given in the table below.

Table 3. Verification of maize/maize co-products destined to use for animal feed

Risk level by country	Criteria for defining the risk level of Aflatoxin B1 in: <ol style="list-style-type: none"> 1. maize destined to feed directly 2. Co- products derived from maize or maize originating from countries listed in Annex 1of this protocol
Risk estimate to be established	If no data/risk assessment is available for a country, action has to be taken to define the risk level.
High	$n \geq 40$, $m = 15\text{ppb}$, $M = 20\text{ppb}$, $c = 10\%$
Medium	$n \geq 40M$, $m = 10\text{ppb}$, $M = 15\text{ppb}$, $c = 10\%$
Low	$n \geq 40M$, $m = 5\text{ppb}$, $M = 10\text{ppb}$, $c = 10\%$

n = number of batches

m = limit in ppb

M = max limit in ppb

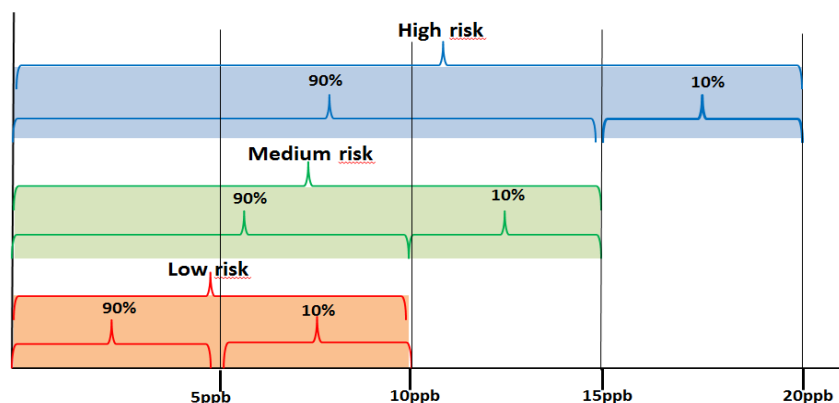
c = maximum amount of samples which can be over m , but under M

The analysis should be generated from at least three different deliveries/cargoes.

In case that more than 10% of the available analyses are above the defined risk level, the country should be moved to the respective higher risk level.

If 90% of the analyses fall within the lower risk level, the country moves to the appropriate lower risk level.

Table 4. Ranges for risk categories



Annex 2 – Table of countries of origin

Table 5. Aflatoxin Initial Risk Estimate

HIGH RISK	MEDIUM RISK	LOW RISK
Italy	All other countries not listed as low or high level	Austria Belgium Denmark Estonia Finland France Germany Iceland Ireland Latvia Lithuania Luxembourg Netherlands Norway Poland Sweden UK