



I-08-03c

SecureFeed Aflatoxin Protocol

Version 14.2

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READING GUIDE:

Chapters **1 to 4**: This protocol begins with descriptions of the Objective, Process Ownership, References, and Scope.

Chapter **5** contains two tables listing the products to which this protocol DOES and does NOT apply.

Chapter **6** includes a schematic decision tree for participants who want to quickly understand the requirements they must meet when purchasing maize, maize by-products, and certain other products that have been identified as having an increased risk of aflatoxin B1 contamination. The decision tree in Chapter 6 and the table in Chapter 7 direct the reader to the relevant section of Chapter **17**, which schematically outlines the most important requirements with regard to frequency of analysis, sampling, analysis method, monitoring, purchasing, and processing.

For readers who want to know more, the other chapters (**8 to 14**) provide background information, details, explanations, and references.

Chapter **15** contains another important obligation for participants who purchase finished feed from 'outside the SecureFeed chain'.

Chapter **16** is important for participants who produce dairy cattle feed. This chapter describes the obligations relating to the verification of finished feed.

Chapter **17**, the final chapter, contains the aforementioned schematic overviews.

This protocol also contains **two appendices**:

- Appendix 1 is important for participants who purchase products from food-producing companies that purchase and process maize under the conditions of Regulation (EU) 2023/915. Appendix 1 contains the assessment framework that SecureFeed uses to assess the processing protocols of the suppliers concerned.
- Appendix 2 describes the conditions under which a recall can be avoided in the event of a minor exceedance of the action limit without compromising food safety.

CHANGES COMPARED TO THE PREVIOUS VERSIONS

Below is an overview of the changes made in each version. Changes compared to the previous version are also **highlighted in yellow** in the text.

Version 12.4 was the latest version of I-08-03c, the aflatoxin protocol that only applied to maize and maize by-products. That version of the protocol expired on November 5, 2025, and has been replaced by this document: Version 13.0 of I-08-03c SecureFeed aflatoxin protocol.

Version 13.0:

Where possible, the text of the 'old' protocol has been retained, but the document has been amended in a number of areas. Given the large number of changes, it is not possible to list them all here.

Version 14.2:

Tightening of the action and rejection limits for Medium Risk Countries:

- The rejection limit for maize intended for processing into dairy cattle feed is lowered from 0.02 mg/kg (20 ppb) to 0.0025 mg/kg (2.5 ppb).
- The rejection limit for pre-maize by-products intended for processing into dairy cattle feed is lowered from 0.02 mg/kg (20 ppb) to 0.005 mg/kg (5 ppb).
- The rejection limit for direct delivery of maize is lowered from 0.0025 mg/kg (2.5 ppb) to 0.00125 mg/kg (1.25 ppb).
- If maize that is processed into dairy cattle feed has an aflatoxin content above the detection limit but below the rejection limit of 0.0025 mg/kg (maize) or 0.005 mg/kg (maize by-products), an additional verification of the final feed must be carried out. One sample of the final feed must be taken and analysed per 250 tonnes of processed maize.
- Removed some ambiguities and incorrect references.

1. PURPOSE

This protocol describes special requirements for SecureFeed participants for the control of aflatoxin B1 risks resulting from/related to the processing or supply of feed materials/products/raw materials such as: maize, maize by-products, and other products as specified in [Chapter 5a](#).

2. PROCESS OWNER

Program Manager Conformity Assessment (PM-CA)

3. REFERENCES

- [P-11 Reporting and assessment of exceedances, deviations, and threats](#)
- [P-13 Calamity management](#)
- [I-08-01 Laboratory Selection](#)
- [I-08-03c-1 Instruction on revision of country classification in D-25](#)
- [D-01 Action and rejection limits](#)
- [D-25 Risk classification of countries for aflatoxin B1 in maize and maize \(by-\)products](#)
- [D-28 Participants in verification of aflatoxin B1 in dairy feeds](#)
- [F-23 Verification of aflatoxin in dairy cattle feed](#)
- [F-24 Results of monitoring aflatoxins and mycotoxins](#)
- [F-34 Cause analysis of elevated aflatoxin B1 in dairy cattle feed](#)
- [GMP+ TS 1.7 Monitoring](#)
- [GMP+ TS 1.6 Sampling](#)
- [Regulation \(EC\) No. 183/2005, Annex II](#)
- [Regulation \(EU\) No. 1881/2006](#)
- [Regulation \(EU\) 2023/9](#)
- [Regulation \(EC\) No. 152/2009, including the amendments from Regulation \(EU\) No. 691/2013](#)
- [GAFTA Sampling Rules No. 124](#)

4. SCOPE

This protocol describes requirements regarding the frequency of analysis, sampling, analysis method, monitoring, purchase, and processing of certain feed materials/products/raw materials such as: maize, maize by-products, and other products as specified in [Chapter 5](#), which are intended for direct delivery to livestock farmers or for the production of compound feed.

The requirements vary depending on the target animal for which the product is intended. Feed materials intended for dairy cattle are subject to more stringent requirements than feed for other target animals. This is reflected in this protocol. See also the decision tree in [Chapter 6](#).

4.1 Other target species

When purchasing and processing maize, maize by-products, and other products as specified in [Chapter 5a](#), intended for animals other than dairy cattle, the requirements as included in GMP+ TS 1.7 apply, Chapter 2¹, apply, on the understanding that the SecureFeed country classification as specified in handbook document D-25 applies and that participants must report exceedances of action and rejection limits based on the SecureFeed standards as included in handbook document D-01.

¹ Whether the protocols recognized by GMP+ as equivalent to TS 1.7, Chapter 2

5. PRODUCTS TO WHICH THIS PROTOCOL DOES AND DOES NOT APPLY

a. This protocol DOES apply to the following products:

No.	PRODUCT TYPE	PRODUCT NAME	SF PRODUCT CODE	ORIGIN/ COUNTRY OF CULTIVATION
1	Maize ²	Maize (incl. crushed and broken)	52210	All origins
2	Maize	Maize (incl. crushed and broken), organic	52165	All origins
3	Maize	Maize EU-4 (moist)	53700	All origins
4	Maize	Maize: Corn Cob Mix (CCM) EU-4	53780	All origins
5	Maize	Maize: Corn Cob Mix (CCM) EU-4, organic	53781	All origins
6	Maize by-product	Maize screenings	52071	All origins
7	Maize by-product	Moist distillers' grains ³	50112	All origins
8	Maize by-product	Grain distillers (DDGS) ³	50100	All origins
9	Maize by-product	Grain distillers (DDGS) (moist) ³	50110	All origins
10	Maize by-product	Maize distillers grain (moist)	50113	All origins
11	Maize by-product	Maize spent wash syrup	50114	All origins
12	Maize by-product	Maize distillers (DDGS)	50101	All origins
13	Maize by-product	Maize gluten 60%	50231	All origins
14	Maize by-product	Maize gluten feed (moist)	50240	All origins
15	Maize by-product	Maize gluten feed (pellets)	50250	All origins
16	Maize by-product	Maize germs	50270	All origins
17	Maize by-product	Maize germs, organic	50272	All origins
18	Maize by-product	Maize germ expeller	50280	All origins
19	Maize by-product	Maize meal, heat-treated ((infrared) micronized)	50312	All origins
20	Maize by-product	Maize, heat treated	50195	All origins
21	Maize by-product	Maize fibre (Corex M100)	52193	All origins
22	Maize by-product	Maize flakes	50310	All origins
23	Maize by-product	Maize feed meal	50321	All origins
24	Maize by-product	Maize feed meal, organic	50323	All origins
25	Maize by-product	Maize solubles	50330	All origins
26	Maize by-product	Mixture heat treated cereals and/or legumes ³	52410	All origins
27	Soya	Soya bean meal (feed)	51321	India
28	Soya	Soya (bean) expeller, organic	51280	India

² MAIZE = unprocessed maize and processed maize, regardless of whether it is dry or moist, including in any case the products listed in the table.

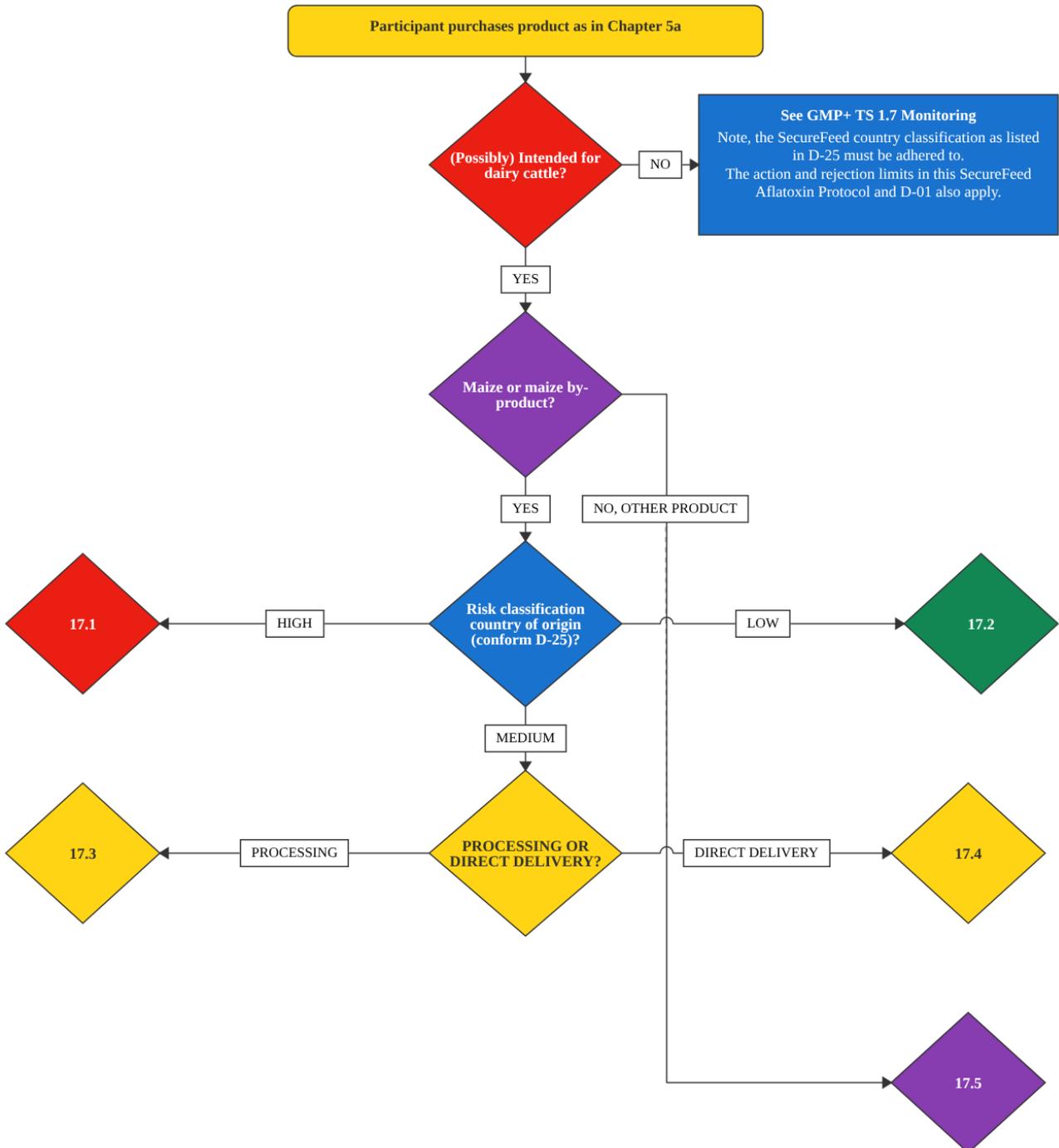
³ If maize (among other things) is used as a raw material for DDGS, the product must comply with the aflatoxin protocol.

b. This protocol does NOT apply to the following products:

NO.	PRODUCT TYPE	PRODUCT NAME	SF PRODUCT CODE	ORIGIN/COUNTRY OF CULTIVATION
1	Maize	Corn cob silage	60050	All origins
2	Maize	Maize silage (moist)	53790	All origins
3	Maize	Maize silage (moist), organic	53791	All origins
4	Maize by-product	Maize germ oil, crude	53070	All origins
5	Maize by-product	Distillers corn oil (from ethanol production)	53073	All origins
6	Maize by-product	Maize starch	50340	All origins
7	Maize by-product	Maize starch, heat treated	50345	All origins
8	Maize by-product	Maize cobs	53830	All origins
9	Maize by-product	Maize cobs, organic	53831	All origins
10	Soya	Soya bean meal (feed)	51321	All origins other than India
11	Soya	Soya bean expeller, organic	51280	All origins other than India

6. DECISION TREE

The decision tree below provides a quick overview of which measures apply under this protocol.



7. OVERVIEW TABLE

The table below shows schematically:

- Whether a positive release applies to a particular stream;
- What the relevant standards are;
- Which part of Chapter 17 applies, via a hyperlink.

Overview table:

PRODUCT	PROCESSING/ DIRECT DELIVERY	RISK CLASSIFICATION COUNTRY OF ORIGIN	POSITIVE RELEASE?	REJECTION LIMIT	ACTION LIMIT	LINK
Maize	PROCESSING	HIGH	YES	1 ppb	-	17.1
Maize by-product	PROCESSING	HIGH	YES	1 ppb	-	17.1
Maize	DELIVERY	HIGH	YES	1 ppb	-	17.1
Maize by-product	DELIVERY	HIGH	YES	1 ppb	-	17.1
Maize & maize by-product	DELIVERY	LOW	NO	2.5 ppb	2 ppb	17.2
Maize & maize by-product	PROCESSING	LOW	NO	20 ppb ⁴	2.5 ppb	17.2
Maize	PROCESSING	MEDIUM	YES	2,5 ppb	1 ppb	17.3
Maize by-product	PROCESSING	MEDIUM	YES OR PROTOCOL ⁵	5 ppb	1 ppb	17.3
Maize	DELIVERY	MEDIUM	YES	1,25 ppb	1 ppb	17.4
Maize by-product	DELIVERY	MEDIUM	YES OR PROTOCOL ⁵	2.5 ppb	2 ppb	17.4
Other products ⁶	PROCESSING	N/A	See Section 9.4	20 ppb ⁴	2.5 ppb	17.5
Other products ⁶	DELIVERY	N/A	See Section 9.4	2.5 ppb	2 ppb	17.5

⁴ 20 ppb is the legal rejection limit for processing in compound feed. SecureFeed also allows processing in compound feed at these high levels, but expressly points out to participants their own responsibility to guarantee the much lower levels (2 ppb) in compound feed delivered to the farmer!

⁵ Protocol as referred to in Appendix 1

⁶ Other products are raw materials that are not maize or maize by-products, but for which additional measures apply. For example, soya bean meal (feed) originating from India.

8. MAIZE-GROWING COUNTRIES

The maize cultivation countries⁷ are divided into three categories: **HIGH**, **MEDIUM**, and **LOW**.

8.1 Current classification of maize-growing countries

In D-25 "Risk classification of countries for maize and maize by-products," the current risk classification for maize and maize by-products⁸ of the various countries is shown for the current harvest year (and previous harvest years, if applicable).

If a batch of maize originates from multiple countries of cultivation, the highest country classification applies. If there are doubts about the country of cultivation (country of cultivation is unknown or uncertain), the highest category applies.

8.2 Revision of the classification of maize growing countries in

At least once a year, at the start of the new harvest season, SecureFeed determines whether maize from a particular country of cultivation has been classified in the correct risk country group. Based on signals, it may be necessary to adjust the risk country classification in the interim.

Participants must therefore have a representative sample analysed for aflatoxin B1 from each of the first three batches of maize⁹ originating from a LOW-risk country and send the results to SecureFeed. The procedure for this is described in detail in the handbook document "I-08-03c-1: Instructions for revising the risk classification of countries for aflatoxin B1 in maize and maize by-products."

9. FREQUENCY OF ANALYSIS

9.1 Mandatory sharing of analyses with SecureFeed

All analysis results within the framework of the aflatoxin protocol must be shared with SecureFeed.

9.2 Frequency of analysis for maize and maize by-products from HIGH and MEDIUM risk countries

Every batch of maize or maize by-products grown in **HIGH-** and **MEDIUM-**risk countries must be analysed.¹⁰ If maize from a MEDIUM-risk country is processed with a contamination level above the detection limit but below 0.0025 mg/kg (2.5 ppb) for maize, or below 0.005 mg/kg (5 ppb) for maize by-products, an additional verification of the final feed must be carried out. One sample of the final feed must be taken and analysed per 250 tonnes of processed maize.

9.3 Frequency of analysis for maize and maize by-products from LOW-risk countries

For batches of maize and maize by-products grown in LOW-risk countries, the participant must apply the frequency of analysis in accordance with the risk analysis of the GMP+(or eq.) certified company.

A different frequency of analysis also applies at the start of a new harvest year (see [Section 8.2](#)).

In addition, extra monitoring requirements apply to maize by-products grown in LOW-risk countries and delivered directly to the dairy farmer. For these maize by-products, the participant supplying the maize by-product must analyse or have analysed one batch every month.

9.4 Frequency of analysis for other products

No.	PRODUCT NAME	SF PRODUCT CODE	ORIGIN	Frequency of analysis
1	Soya bean meal (feed)	51321	India	Each batch
2	Soya (bean) expeller, organic	51280	India	Each batch

⁷ If applicable, a country can be divided into different regions.

⁸ For by-products, the country where the maize from which the by-product was produced is grown is considered the country of cultivation.

⁹ This obligation **does not** apply to batches of CCM from low-risk countries.

¹⁰ Unless explicitly stated otherwise in this document for certain products.

9.5 Further provisions

If a batch of a product as referred to in [Chapter 5a](#) has already been analysed by a GMP+ certified supplier¹¹, then this batch does not need to be analysed again if it can be demonstrated that the following conditions have been met:

- The analysis results are available;
- There is a clear link between the delivered batch and the certificate of analysis;
- The batch size is the same as that described in [Chapter 10](#);
- The sampling and analysis have been carried out as described in this protocol;
- The analysis must be carried out within a maximum of three months prior to the date of unloading or delivery of the product to the participant. If this is not the case, a new analysis must be carried out¹².
- In the case of a new analysis, the highest value of all measured aflatoxin B1 results applies. All analysis results for the batch (including expired results) must accompany the batch.

9.6 Obligations regarding the provision of information to customers

- Information about the harvest year and country of cultivation of batches of products as referred to in [Chapter 5a](#) must always be known at every link in the supply chain.
- In the event of a positive release, the batch must always be accompanied by the analysis results relating to the batch.
 - This data must show that the sampling was carried out no more than 3 months before the delivery date.
 - In the case of stored batches and re-analysis after three months, the highest measured aflatoxin B1 value (from all sampling moments) is decisive, as it is unlikely that the aflatoxin B1 content could decrease over time.
 - All analysis results applicable to the batch (including expired results) must accompany the batch.
 - In the case of maize by-products, the food business referred to in paragraph 12.5 must declare in writing that it has applied the protocol to the incoming maize stream.
- In order to properly apply the obligations under this protocol, this information must be known to the purchasing SecureFeed participant prior to processing or delivery. If necessary, this information must be actively requested from the supplier.

9.7 Further provisions regarding mutual deliveries of maize by-products between SecureFeed participants

If a batch of maize by-products is delivered by a SecureFeed participant to another SecureFeed participant, the receiving SecureFeed participant is not bound by the provisions of paragraph 9.6 if and insofar as the following conditions are demonstrably met:

- The analysis results of the batch in question are reported to SecureFeed by the supplying SecureFeed participant;
- A certificate of analysis is available to the receiving SecureFeed participant upon request;
- The supplying and receiving SecureFeed participants have demonstrably agreed that the supplying SecureFeed participant guarantees that the batches to be delivered comply with the standards for dairy cattle feed.

¹¹ This also applies if the supplier participates in another accepted feed safety assurance scheme.

¹² A new analysis always means that a new sample must be taken. A second analysis of a sample taken earlier does not count as a new analysis.

10. SIZE OF BATCHES

The size of a batch to be sampled and the corresponding minimum number of samples to be analysed is related to the means of transport and the origin.

Contrary to the provisions of GMP+ TS 1.7 Monitoring and contrary to the provisions of Regulation (EC) No. 152/2009, including the amendments from Regulation (EU) No. 691/2013, and contrary to the GAFTA sampling rules No. 124, the maximum batch size according to Table 1 applies to the application of this protocol **for maize and maize by-products**¹³.

Table 1: Maximum batch size for maize and maize by-products

Means of transport	HIGH-risk countries	MEDIUM-risk countries	LOW-risk countries
Seagoing vessel or coaster	Max. 2,000 Mt	Max. 5,000 Mt	According to the hazard analysis of the GMP+ (or eq.) certified company
Inland vessel Light vessel/Push boat	Inland vessel Light vessel/Push boat	Inland vessel Light vessel/Push boat	
Train	Max. 1,500 Mt	Train	
Truck, ex Storage/warehouse, production location, or collection point	Max. 1,000 Mt	Max. 2,000 Mt	

11. PLACE OF SAMPLING

Batches must be sampled during loading (country of cultivation) *or* unloading (country of destination). If the protocol is applied during unloading, the batch size is determined by *the means of transport in which the product is subsequently loaded*.

12. SAMPLING AND ANALYSIS OF MAIZE AND MAIZE BY-PRODUCTS (LOW RISK)

Maize and maize by-products grown in **LOW**-risk countries of origin must be sampled and analysed in the manner prescribed in GMP+ TS 1.6 Sampling.

There is one exception to this rule: for maize by-products grown in **LOW**-risk countries and delivered directly to the dairy farmer, the participant supplying the by-product must analyse one batch per month or have it analysed in accordance with this protocol.

13. SAMPLING AND ANALYSIS OF MAIZE AND MAIZE BY-PRODUCTS (HIGH AND MEDIUM RISK)

13.1 Sampling method

13.1.1 General

The sampler must take representative samples in accordance with the method described in:

- Regulation (EC) No. 152/2009, including amendments from Regulation [EC 691/2013](#);
OR
- [GAFTA sampling rules \(124\)](#);

...under the following conditions:

- The sampling methods permitted by SecureFeed shall also be observed.
- Sampling must be carried out on the entire batch. Sampling of only part of the batch is not acceptable within the framework of this protocol. If the entire batch in the (bulk goods) warehouse is not accessible for sampling, a sampling plan must be drawn up and documented that covers the accessible part of the batch. The part of the batch that has not yet been sampled and analysed must be sampled as soon as possible and as soon as access to it is safe.
- If maize is stored in a silo for more than three months and is not accessible for sampling prior to delivery to the customer, sampling may be carried out during the loading process. The results must

¹³ For all **other** products, the aforementioned GMP/EU/GAFTA regulations may be followed.

be available prior to unloading at the customer's premises or at least prior to the next processing step or feeding (if there is a written agreement between the seller and the customer).

- A participant may agree with its supplier to use the aflatoxin B1 test results provided by the supplier.
- The analysis may be carried out in the country of cultivation, so that the results are known to the buyer before the batch is processed.

13.1.2 Supply of maize by water and by train

In the case of maize supply to¹⁴ by water and/or train, the following conditions apply in all cases:

- At least 4 composite samples per batch must be taken, each of which must be submitted to the laboratory for analysis.
 - A representative composite sample is taken from each quarter of the batch.
 - The following applies to the preparation of each of these aggregate samples:
 - At least 10 basic samples of 1 kg, resulting in a composite sample of at least 10 kg¹⁵ or at least 4 kg
- OR
- At least 20 primary samples, resulting in aggregate samples of at least 4 kg.

13.2 Sampler

Each batch must be sampled by an independent supervisory organization accredited in accordance with ISO 17020 for an applicable scope, or in accordance with ISO 9001 for an applicable scope in combination with GAFTA¹⁶ approval as an inspector for sampling in a relevant field of application (such as animal feed).

13.2.1 Sampler for deliveries by truck

In the case of direct delivery by truck of batches that have not yet been sampled and analysed in accordance with this protocol, the following applies:

- From countries with a **HIGH** risk class, sampling must be carried out and checked by a sampler who complies with the requirements of 13.2 .
- From countries with a risk class of **MEDIUM**, sampling must be carried out in accordance with GMP+ TS 1.6 Sampling.

13.3 Laboratory and analysis

Samples must be analysed for aflatoxin B1 levels. This analysis must be carried out by a laboratory that meets the requirements set out in Handbook document I-08-01 "Selection of laboratories." Semi-quantitative methods such as thin-layer chromatography (TLC), ELISA, and others may not be used for the analyses referred to in this protocol.

Each final sample must be completely ground and homogenized by the laboratory. See GMP+ TS 1.7 Monitoring for the conditions regarding sample preparation and analysis by the laboratory.

The certificate of analysis must state at least the country of cultivation of maize, the batch identification (such as batch number, lighter, (sea) vessel name and hold) and the size of the batch from which the sample was taken, as well as the sampling date.

13.3.1 Certificate of analysis for deliveries by truck

For deliveries by truck, the certificate of analysis from the storage facility in the country of cultivation may be used as representative for the trucks loaded from that facility, provided that the storage facility has been sampled in accordance with this chapter.

13.4 Reporting analysis results

Final feed materials and raw materials with an analysis result above the specified action and rejection limits must be reported to SecureFeed immediately in accordance with P-11 Reporting and assessing exceedances, deviations, and threats and see document: P-13 Calamity management.

All other analysis results for aflatoxin B1 in maize resulting from the participant's own monitoring or received from third parties within the framework of the GMP+ FSA aflatoxin protocols (or eq.) or this protocol must be

¹⁴ These (additional) conditions do not apply to by-products; four analyses per batch have no added value for by-products, as these products are much more homogeneous.

¹⁵ In the case of the slurry method

¹⁶ GAFTA website: <http://www.gafta.com/members/superintendents>

reported to the secretariat by email at least once a month (monitoring@securefeed.eu). The participant should preferably use form F-24 Results of Aflatoxin and Mycotoxin Monitoring for this purpose.

13.5 Food-producing companies that purchase and process maize under the conditions of Regulation (EU) 2023/915¹⁷

If the supplier (or participant) is the producer or trader of a maize by-product, they must apply this protocol to the by-product that is supplied. Food-producing companies that purchase and process maize grown in a medium-risk country under the conditions of Regulation (EU) No. 2023/915 may apply the protocol to the inflow of maize if they can demonstrate that they work with a processing protocol that meets the requirements set out in Appendix 1: "Assessment framework for aflatoxin risk assurance protocols."

14. SAMPLING AND ANALYSIS OF OTHER PRODUCTS

For other products, the obligations set out in the table below apply with regard to sampling and analysis:

No.	PRODUCT NAME	SF PRODUCT CODE	ORIGIN	Obligations as in:
1	Soybean meal (feed)	51321	India	13.1; 13.2; 13.3; 13.4
2	Soya (bean) expeller, organic	51280	India	13.1; 13.2; 13.3; 13.4

15. CONDITIONS FOR THE PURCHASE AND DIRECT DELIVERY OF FINISHED FEED

SecureFeed participants are responsible for ensuring that, when purchasing dairy feed from third parties as referred to in this protocol, the dairy feed purchased demonstrably complies with the requirements of this protocol. Even if dairy feed is supplied by a supplier who is not a SecureFeed participant, the participant must ensure that this supplier complies fully with this protocol. If this condition cannot be met, an analysis as referred to in [Chapter 13](#) must be supplied with each delivery of dairy feed (positive release). In addition, the conditions set out in Appendix 2 apply to maize by-products that are delivered directly to the dairy farmer.

16. VERIFICATION OF FINAL FEEDS

16.1 Introduction

SecureFeed considers it necessary that, in addition to the regular monitoring programme, additional verification of aflatoxin B1 in dairy feeds containing maize, maize by-products, or other products as specified in [Chapter 5a](#) be carried out. This verification should only be performed by participants who produce dairy feeds.

16.2 Procedure for production locations

16.2.1 Weekly or monthly verification

- 1) At each location where dairy cattle feed containing maize, maize by-products, or other products as specified in [Chapter 5a](#) is produced (regardless of origin), one sample of the dairy cattle feed with the highest percentage of maize and/or maize by-products must be analysed weekly.
- 2) If no new batches of maize, maize by-products, or other products as specified in [Chapter 5a](#) have been processed in dairy cattle feed during a given week, testing of dairy cattle feed is not necessary.
- 3) If a dairy cattle feed production site can demonstrate that it has had weekly verification Aflatoxin B1 Dairy Feeds results of ≤ 0.001 mg/kg (**1 ppb**) for 6 consecutive months, this site may reduce the verification frequency from weekly to monthly¹⁸.
- 4) If results > 0.001 mg/kg (**1 ppb**) are detected during the monthly aflatoxin B1 verification, the following applies:
 - a) If 0.001 mg/kg (**1 ppb**) $<$ aflatoxin B1 analysis result ≤ 0.002 mg/kg (**2 ppb**)
 - i) The verification frequency remains monthly;
 - ii) Report immediately to SecureFeed (see below under 16.2.3 – 3).
 - b) If aflatoxin B1 analysis result > 0.002 mg/kg (**2 ppb**)
 - i) The verification frequency will change to weekly.

¹⁷ The full name of the regulation is: Commission Regulation (EU) 2023/915 of April 25, 2023, on maximum levels for certain contaminants in foodstuffs and repealing Regulation (EC) No. 1881/2006

¹⁸ The so-called 6-month rule

- ii) After another 6 consecutive months of exclusively weekly aflatoxin B1 verification results ≤ 0.001 mg/kg, the verification frequency may return to monthly.

16.2.2 New participants or new production locations

- 1) New participants or participating production sites always start with the procedure described at 16.2.1 .

16.2.3 Communication of verification results and root cause analysis

- 1) The participant shares the results of the dairy cattle feed verification with SecureFeed (at least once per quarter, preferably monthly):
 - a) Via the GMP+ monitoring database, provided that:
 - i) The participant registers the result under the product Compound feed for cattle: dairy cattle feed; Compound feed for goats, Compound feed for sheep. If the participant produces dairy cattle feed that falls outside these GMP+ product categories, the participant must inform SecureFeed of the product name under which they are uploading the results.
 - ii) The participant finalizes the registered results and shares them with the SecureFeed group in the GMP+ monitoring database.
 - iii) The participant documents the weeks/months in which no sampling was carried out in **F-23 Verification Aflatoxin Dairy Cattle Feed**, including the reason, and shares this at least once a quarter via monitoring@securefeed.eu (if applicable).

OR

- b) Via '**F-23 Verification Aflatoxin Dairy Feeds**' from the SecureFeed manual.
 - i) This form must be emailed to monitoring@securefeed.eu .
- 2) If increases are detected in dairy cattle feed ($>$ SecureFeed action limit), the participant shall immediately inform SecureFeed and other participants via the notification system in the SecureFeed database.
- 3) If the value is below the SecureFeed action limit but above 0.001 mg/kg (1 ppb), the participant must prepare a cause analysis and share it with SecureFeed using the form '**F-34 Cause Analysis Elevated Aflatoxin B1 in Dairy Feed**'. This form must be emailed to monitoring@securefeed.eu . The participants in the dairy feed verification are listed in '**D-28: Participants in Verification Aflatoxin B1 Dairy Feeds**'.

17. SCHEMATIC OVERVIEW OF REQUIREMENTS

17.1 Maize and maize by-products – HIGH risk - PROCESSING + DIRECT DELIVERY

Products	Maize and maize by-products
Country of cultivation	HIGH-risk country
Destination	Processing into dairy cattle feed and/or direct delivery to dairy farmers
Requirements for analysis (frequency)	Positive release & <u>all</u> analyses below the SF rejection limit, including those from any sea vessel.
Requirements for sampling and analysis methods	Sampling in accordance with GAFTA (124) or EC 691/2013 and the additional conditions in Chapters 13.1.1 and 13.1.2.
Additional sampling requirements for deliveries of <u>maize</u> (and therefore <u>not</u> for deliveries of maize by-products) ¹⁹ s by water and train	At least 10 basic samples of 1 kg from each quarter of the coaster, inland vessel, lighter or barge or train load, resulting in at least 4 composite samples of at least 10 kg, each of which must be analysed. OR At least 20 primary samples from each quarter of a coaster, inland vessel, lighter, barge, or train load, resulting in at least 4 aggregate samples of at least 4 kg, each of which must be analysed.
	At least one analysis of the sea vessel sampled in accordance with GAFTA (124) or EC 691/2013 .
	Sampling by independent sampler
Additional sampling requirements for direct delivery by truck	At least one analysis per batch (max. 1,000 Mt)
	Sampling by independent sampler
SF rejection limit	0.001 mg/kg (1 ppb)

¹⁹ These (additional) conditions do not apply to by-products; four analyses per batch have no added value for by-products, as these products are much more homogeneous.

17.2 Maize and maize by-products - LOW-risk PROCESSING + DIRECT DELIVERY

Products	Maize and maize by-products
Country of cultivation	LOW-risk country
Destination	Processing into dairy cattle feed and/or direct delivery to dairy farmers
Requirements for analysis frequency	<p>According to the hazard analysis of the GMP+ (or eq) certified company</p> <p>And in addition, in the case of <u>maize</u>: At the start of the harvest year: have the first three batches of maize analysed and send the results to SecureFeed*.</p> <p>And in addition, in the case of <u>maize by-products</u>: Have at least one batch of the directly delivered by-product analysed each month and send the results to SecureFeed.</p> <p>*Does not apply to batches of CCM.</p>
Requirements for sampling and analysis method	According to GMP+ TS 1.6 Sampling
Additional sampling requirements for delivery by water or train	X
Additional sampling requirements for direct delivery by truck	X
SF rejection limit for product to be PROCESSED	0.02 mg/kg (20 ppb)
SF rejection limit for DIRECTLY DELIVERED product	0.0025 mg/kg (2.5 ppb)

17.3 Maize and maize by-products - MEDIUM risk – PROCESSING

Products	Maize and maize by-products
Country of cultivation	MEDIUM-risk country
Destination	PROCESSING into dairy cattle feed
Requirements for analysis frequency	Positive release OR In the case of a maize by-product: the participant has determined that the maize by-product was produced under the conditions specified in section 13.5.
Requirements for sampling and analysis method	Sampling in accordance with GAFTA (124) or EC 691/2013 and the additional conditions in Chapter 13.1.1
Additional sampling requirements for <u>maize</u> deliveries (and therefore <u>not</u> for maize by-product deliveries) ²⁰ s by water and train	At least 10 basic samples of 1 kg from each quarter of the coaster, inland vessel, lighter or barge or train load, resulting in at least 4 composite samples of at least 10 kg, each of which must be analysed. OR At least 20 primary samples from each quarter of a coaster, inland waterway vessel, lighter, barge, or train load, resulting in at least 4 aggregate samples of at least 4 kg, each of which must be analysed.
	Sampling by independent sampler
Additional sampling requirements for direct delivery by truck	At least one analysis per batch (max. 2,000 Mt)
	Sampling by the GMP+ FSA-certified company in accordance with the general GMP+ FSA requirements (GMP+ TS 1.6 Sampling).
Additional sampling requirements for the processing of maize	If maize is processed with a level above the detection limit but below 0.0025 mg/kg (maize) or 0.005 mg/kg (maize by-products), an additional verification of the final feed must be carried out. One sample of the final feed must be taken and analysed per 250 tonnes of processed maize.
SecureFeed rejection limit for MAIZE	0.0025 mg/kg (2.5 ppb)
SecureFeed rejection limit for MAIZE BY-PRODUCTS	0.005 mg/kg (5 ppb)

²⁰ These (additional) conditions do not apply to by-products; four analyses per batch have no added value for by-products, as these products are much more homogeneous.

17.4 Maize and maize by-products - MEDIUM risk - DIRECT DELIVERY

Products	Maize and maize by-products
Country of cultivation	MEDIUM-risk country
Destination	DIRECT DELIVERY to dairy farmer
Requirements for analysis frequency	Positive release OR In the case of a maize by-product: the participant has determined that the maize by-product was produced under the conditions referred to in section 13.5.
Requirements for sampling and analysis method	Sampling in accordance with GAFTA (124) or EC 691/2013 and the additional conditions in Chapter 13.1.1
Additional sampling requirements for <u>maize</u> deliveries (and therefore <u>not</u> for maize by-product deliveries) ²¹ s by water or train	At least 10 basic samples of 1 kg from each quarter of the coaster, inland vessel, lighter or barge or train load, resulting in at least 4 composite samples of at least 10 kg, each of which must be analysed. OR At least 20 primary samples from each quarter of a coaster, inland vessel, lighter, barge, or train load, resulting in at least 4 aggregate samples of at least 4 kg, each of which must be analysed.
	Sampling by independent sampler
Additional sampling requirements for direct delivery by truck	At least one analysis per batch (max. 2,000 Mt)
	Sampling by the GMP+ FSA-certified company in accordance with the general GMP+ FSA requirements (GMP+ TS 1.6 Sampling).
SecureFeed rejection limit for MAIZE	0.00125 mg/kg (1.25 ppb)
SecureFeed rejection limit for MAIZE BY-PRODUCTS	0.0025 mg/kg (2.5 ppb)

²¹ These (additional) conditions do not apply to by-products; four analyses per batch have no added value for by-products, as these products are much more homogeneous.

17.5 OTHER PRODUCTS – PROCESSING & DIRECT DELIVERY

17.5.1 Soya bean meal and soybean hulls (feed), organic from India

Products	Soya bean meal and soybean hulls (feed), organic
Country of origin	INDIA
Destination	Processing into dairy cattle feed and/or direct delivery to dairy farmers
Requirements for analysis frequency	Positive release
Requirements for sampling and analysis method	Sampling in accordance with GAFTA (124) or EC 691/2013 and the additional conditions in Chapter 13.1.1
Additional sampling requirements for delivery by water or train	At least 10 basic samples of 1 kg from each quarter of the coaster, inland vessel, lighter or barge or train load, resulting in at least 4 aggregate samples of at least 10 kg, each of which must be analysed. OR At least 20 primary samples from each quarter of a coaster, inland vessel, lighter, barge, or train load, resulting in at least 4 aggregate samples of at least 4 kg, each of which must be analysed.
	Sampling by independent sampler
Additional sampling requirements for direct delivery by truck	At least one analysis per batch (max. 2,000 Mt)
	Sampling by the GMP+ FSA-certified company in accordance with the general GMP+ FSA requirements (GMP+ TS 1.6 Sampling)
SF rejection limit for product to be PROCESSED	0.02 mg/kg (20 ppb)
SF rejection limit for DIRECTLY DELIVERED product	0.0025 mg/kg (2.5 ppb)

17.5.2 Product X from Y

Products	Product X
Country of cultivation	Y
Destination	Processing into dairy cattle feed and/or direct delivery to dairy farmers
Requirements for analysis frequency	
Requirements for sampling and analysis method	
Additional sampling requirements for delivery by water or train	
Additional sampling requirements for direct delivery by truck	
SF rejection limit	

APPENDIX 1: ASSESSMENT FRAMEWORK FOR ASSURANCE PROTOCOLS FOR AFLATOXIN RISKS

Application

SecureFeed uses this assessment framework to assess the processing protocols of suppliers or producers of maize by-products. This specifically concerns protocols of suppliers or producers of maize by-products from **MEDIUM**-risk countries that meet the conditions set out in [Section 13.5](#).

Purpose of this assessment framework

The purpose of this assessment framework is to enable the positive release measure for maize by-products from **MEDIUM**-risk countries to be abandoned by replacing it with a well-secured process for processing maize, with an emphasis on analysing the incoming maize and the concentration factors of its maize by-products.

This process must be described by the supplier of the by-product in a processing protocol. This processing protocol must be approved by SecureFeed.

This assessment framework describes the requirements that the processing protocols drawn up by the suppliers must meet. It also contains guidelines that the supplier/producer may follow, but is not obliged to follow.

Method

Description of the steps in the approval process:

1. Participant requests the protocol from the supplier;
2. The participant submits it to the SF Secretariat;
3. SF approves the protocol or rejects it with instructions for improvement;
4. Suppliers incorporate the instructions and resubmit the improved protocol.

Requirements for the processing protocol

SecureFeed will only approve a processing protocol as referred to in this appendix if it meets the following requirements:

1. Incoming maize is sampled and analysed in accordance with this SecureFeed aflatoxin protocol.
2. The blending process must be well substantiated, such that a concentration factor of <0.0025 mg/kg (**2.5 ppb***) in the end product for dairy cattle can be guaranteed.

*The 2.5 ppb limit obviously only applies if the end product in question is also intended and/or suitable for direct feeding to dairy cattle.

Guidelines for a processing protocol:

The supplier/producer can take the following guidelines into account when drawing up their processing protocol:

1. Work with a detection limit of <0.0001 (**0.1 ppb**) mg/kg;
2. Establish how the concentration factor of a by-product affects the maximum aflatoxin content of the incoming maize as a basic condition for processing.
 - o An example of such an agreement: In a production process with a concentration factor of 4, **0.5 ppb** in the incoming maize is the basic condition for processing. At higher values, positive release is applied.
3. Provide a sound justification for the concentration factors used.
4. Use the highest concentration factor found in the calculations/validation/verification.
5. When determining the concentration, use the average of the (4) aflatoxin analyses (and not the highest value);
6. Include all maize used in the production process in the blending (e.g., screenings during intake);
7. Regularly validate that the applicable standards for maize by-products are being met.
8. Regularly validate that the concentration factors are sufficiently generous.

APPENDIX 2: HANDLING OF BY-PRODUCTS INTENDED FOR DIRECT FEEDING

Application

This appendix has been added to create a workable situation in the event of a slight exceedance of the SecureFeed standard for aflatoxin B1 in maize by-products intended for direct feeding.

Purpose of this appendix

To provide clarity on the handling of maize by-products intended for direct feeding that contain a slight exceedance of the SecureFeed standard for aflatoxin B1.

Applying the procedure described in this appendix makes it possible to avoid a recall without compromising food safety.

Context

The SecureFeed standard for aflatoxin B1 in feed materials supplied to dairy farmers for direct feeding is 0.0025 mg/kg (**2.5 ppb**). This means that if analysis results prior to delivery show values above this standard, feed materials may not be delivered directly to dairy farms. The GMP+ rejection limit is 0.005 mg/kg (**5 ppb**).

Procedure

In the case of:

1. A by-product intended for direct feeding;
- and
2. That by-product was delivered to the dairy farmer before the analysis results of the batch in question were known;
- and
3. The analysis result for aflatoxin B1 in that batch is between 0.0025 mg/kg (**2.5 ppb**) and 0.005 mg/kg (**5 ppb**);

...SecureFeed is permitted to conduct a risk assessment to determine the next steps instead of immediately recalling the batch in question.

For example, if adjusting the feeding advice keeps the concentration of aflatoxin M1 in the milk below the standard of 0.04 µg/Liter, no recall is necessary.

Such a decision will be taken in consultation with the Consortium 'Notifications'.

This decision can only be taken if the participant notifies the livestock farmer of any changes to the feeding advice based on the analysis results.

If, after adjusting the feed recommendation, it appears that the rejection limit for aflatoxin M1 in milk has nevertheless been exceeded, the participant must be able to demonstrate that the adjusted recommendation was given.