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# GUIDANCE ON AUTHENTICITY OF HERBS AND SPICES

INDUSTRY BEST PRACTICE ON ASSESSING AND  
PROTECTING CULINARY DRIED HERBS AND SPICES

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Food and Drink  
Federation



Delivering Sustainable Growth







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# Foreword

During the early part of 2015 the Food Standards Agency (FSA) were advised by the Food and Drink Federation (FDF) and the Seasoning and Spice Association (SSA), in liaison with the British Retail Consortium (BRC), that there was concern in Canada and the United States after certain batches of ground cumin and paprika tested positive for undeclared peanut protein. This represented a significant public health risk to people with nut allergies. The level of contamination suggested that the products had most likely been adulterated with cheaper materials for financial gain.

Both industry and the FSA launched sampling programmes in the UK and whilst we identified low levels of peanut and almond consistent with adventitious cross-contamination in some of the spice products tested, we did not find any evidence of large scale adulteration.

Recognising the severity of the situation in North America, we decided to meet with representatives from across the food industry at a specially organised workshop. The purpose of this workshop was to determine if potential weaknesses in supply chains associated with dried herbs and spices in the UK did exist and to discuss what further measures might be needed to strengthen consumer protection across this sector.

The workshop focussed on identifying steps within a variety of supply chains where there might be opportunity for fraudulent practices involving adulteration and substitution. Solutions for addressing these vulnerabilities were also explored and ways of mitigating potential threats to product integrity were identified.

A key recommendation arising from this workshop was that an expert Joint Industry Working Group should be established to develop best practice guidance for UK businesses, which would provide advice on how to identify vulnerabilities in their supply chains and the types of preventative measures they could consider.

I am pleased to say that as a result, representatives from the BRC, FDF and SSA have developed the following guidance. The document is intended as a practical and easy-to-read guide with the focus on protecting the integrity of food and food supply chains in this sector.

No process can guarantee that food businesses are not the target of fraudulent activity but the use of this document can make it less likely. Therefore, I encourage small and large food businesses alike to study the contents of this guidance as it could prevent future public health risks, give us the confidence that the foods we eat are what they say they are as well as protecting the reputation of this important and complex food sector.

Finally, I would like to thank all those involved in the production of this document. This particular collaborative approach is a really good example of incident prevention and engagement across industry, the Food Standards Agency and Food Standards Scotland.

## **Catherine Brown**

Chief Executive  
Food Standards Agency

# 1. Introduction

The global market for herbs and spices is complex with diverse supply chains and products being sourced from a variety of businesses ranging from large scale producers to smallholders. Many herbs and spices grow wild and are farmed on a village or subsistence scale and there are often many intermediaries in the supply chain from farmer, collector to middle-man before arrival at the origin processor/shipper (see for example the Supply Chain Map in Annex II). Protection against adulteration and substitution is of the utmost importance given that many herbs and spices are materials that may be of high intrinsic value. Food businesses need to ensure that they have appropriate controls and mitigation measures in place to prevent or detect product vulnerabilities. As with any raw material and its supply chain, the emphasis should always be on prevention rather than detection of issues. As each herb and spice is unique, this document concentrates on identifying and assessing general vulnerabilities.

This Guidance was developed by a Joint Industry Working Group comprised of representatives of the British Retail Consortium, Food and Drink Federation and Seasoning and Spice Association, in liaison with the Food Standards Agency and Food Standards Scotland.

## 1.1. Scope

This document has been developed to provide Industry Best Practice Guidance on vulnerability assessment for culinary dried herbs and spices<sup>1</sup> (including blends), in order to mitigate against potential adulteration and substitution. It is focussed on the authenticity of herbs and spices and therefore does not cover general food safety controls. However, food safety and labelling requirements still apply<sup>2</sup>. It is prudent for users also to consider the potential for cross-contamination as a part of Good Agricultural and Manufacturing Practices, which are beyond the scope of this document (See Section 6 for useful links to further information).

## 1.2. How to Use the Guide

This guide is intended to facilitate the sharing of best practice and elements of it will assist companies using herbs and spices in understanding their role in assuring the integrity of their products. It has been developed from the perspective of providing an oversight of the whole supply chain, from sourcing to placing the product on the market, whether to businesses or to the final consumer. The document has been written from the perspective of UK industry but the principles will apply to businesses globally. It is important for businesses to consider the regulatory requirements and responsibilities for the market in which they are trading. The Decision Tree will lead you through this Guidance.

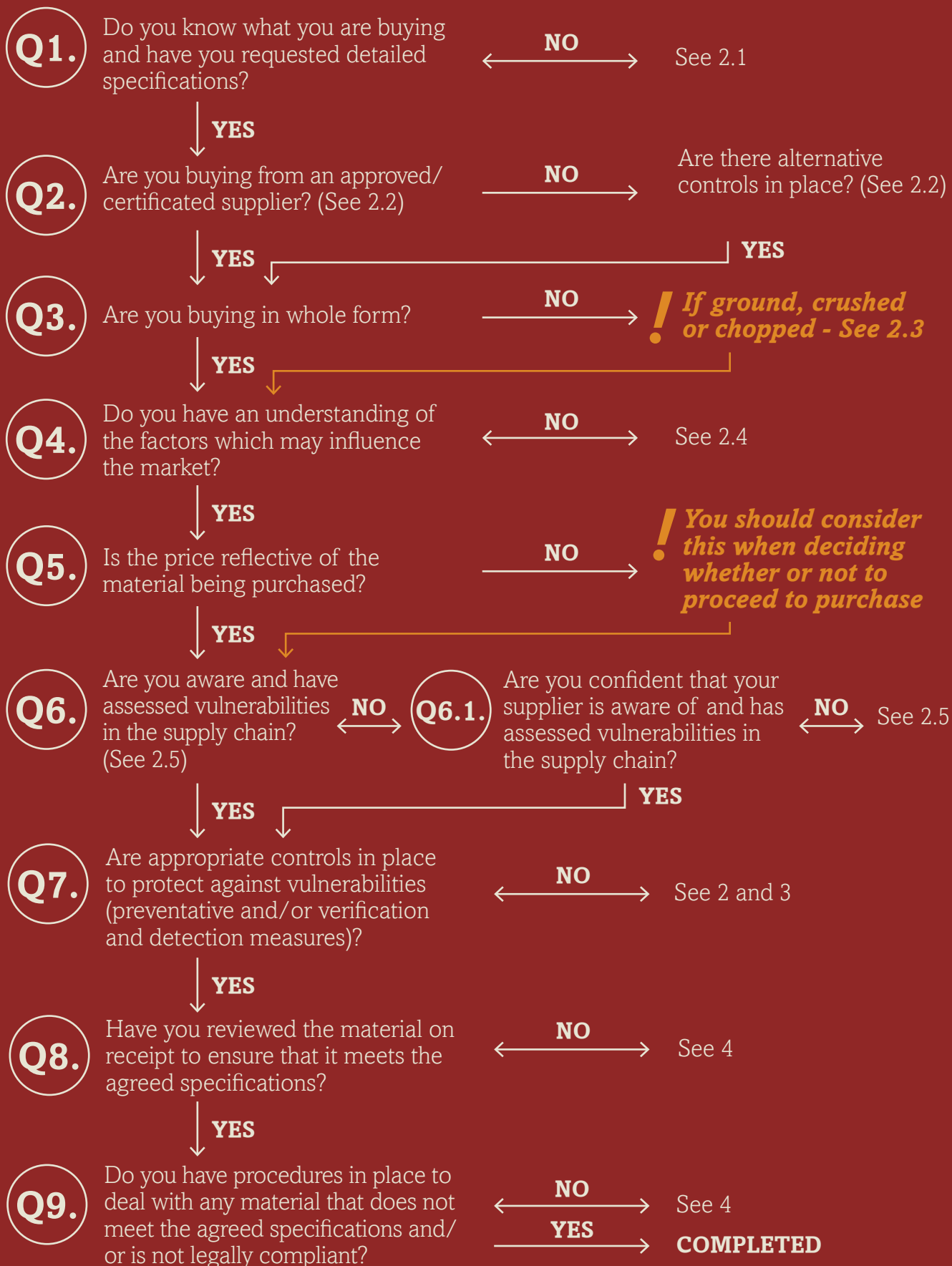
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1 See ESA List of Culinary Herbs and Spices for major, most commonly traded products in the EU:  
<http://www.esa-spices.org/download/esa-list-of-culinary-herbs-and-spices.pdf>

2 See FSA website: <http://www.food.gov.uk/enforcement/regulation/foodlaw>



**1.3. Decision Tree to Protect Herbs and Spices against Supply Chain Vulnerabilities**



NB: Assessment of Supply Chain Vulnerabilities is an ongoing process which requires regular review.

Every part of the supply chain has a role to play in assuring product integrity, whether as growers, primary processors, herbs and spices agents and brokers, packers, food manufacturers, retailers, foodservice operators or wholesalers/cash and carry businesses. The principles of this Guidance can be used by any part of the supply chain. Brand owners will wish to consider their specific legal responsibilities for the safety and authenticity of their products when using this guide. Companies should also ensure that they have strong links between procurement and regulatory/technical functions.

## 2. Preventative Measures

### 2.1. Product Specification

The foundation of any purchasing agreement is a comprehensive specification which allows clear understanding of the nature and detail of the food in question.

Detailed specifications should include:

- Botanical species – this is a key indicator which allows differentiation between two similar products. For example, in case of cassia and cinnamon, the species determines the genuine ingredient. For more information please refer to the European Spice Association List of Culinary Herbs and Spices.
- Full description of the product, declaration of any “standardization processes” and all ingredients should be listed. In developing your product specification, you should also take into account any claims made on the final product (e.g. organic or origin) and any known cross-contamination or allergen risks.
- Key attributes eg: Volatile Oil Content; Piperine for pepper; Curcumin for turmeric; ASTA units for paprika; Scoville Heat Units (or Capsaicin content) for chillies; Colouring Strength/Safranal content for saffron; and Physical Attributes (e.g. particle size, grade, bulk density).
- For further reference, Annex 1 provides examples of types and methods of adulteration, including recommended controls.

### 2.2. Supplier Assurance

Supplier assurance is an important factor in ensuring the integrity of products and may encompass the following:

- Using approved/certificated suppliers (e.g. a GFSI approved scheme such as the BRC Global Standard) may assist with the objective of building a secure, assured supply chain;
- Based on identified risks, targeted audits of the supply chain to ensure visibility and transparency as to the original source of the raw material, processing, ownership and storage at each point in the supply chain; and
- Good Agricultural and Manufacturing Practices (e.g. storage, segregation).

### **2.3. Product Type**

For ground, crushed or chopped materials it is critical to know where the first and any subsequent such process took place and who owned the material at point of size reduction. Grinding or blending of rubbed herbs and spices is the point in the supply chain where the greatest risk of adulteration can occur and knowledge of ownership of the product at this point in the supply chain forms a key part of the risk assessment. As historically evidenced, reduction of particle size can hide adulteration and make it more difficult to detect. Dependent on the exact nature of the adulterant, suitable analytical methods to identify adulteration may already be available or may be under ongoing development.

### **2.4. Knowing Your Supply Market**

Having an understanding of the factors which may influence the market will assist you in building preventative measures into your purchasing decisions. Factors which you may wish to consider include:

- Being aware of and understanding the trading market, e.g. seeking clarification if ground product is being offered below the market price of whole product as this could suggest that the product purity is in question and further investigation may be required. Market intelligence data to track price trends is available, often as a subscription service.
- Being aware of the harvest cycle which can influence availability and quality (See Typical Harvest Chart at Annex III). In general terms, new crop material typically arrives in the UK/EU two months or more after the commencement of harvest. Therefore, if a producing origin suffers from some type of extraordinary event (e.g. hurricane) the supply can be affected either immediately or up to 18 months later, dependent on the pipeline stock position.

### **2.5. Understanding Vulnerabilities in Your Supply Chain**

Knowing your supply chain is a key factor in understanding vulnerabilities and mitigating against them. This is an ongoing process which requires regular reviews according to the most updated and available market information. To map your supply chain from a food authenticity perspective, consider possible vulnerabilities at each stage of the supply chain (See Annex II) and take into account the following points:

- Number of countries/regions/places and intermediaries through which the original ingredient has been processed or transited – ensure visibility and transparency of your supply chain;
- History of fraud for a particular ingredient/category of ingredients, as this can point towards possible future vulnerabilities.
- Seasonality and availability of supply (See Typical Harvest Chart at Annex III).
- Weather events or natural disasters (i.e. drought, flood, earthquakes) that may impact supply availability.
- Cultural and geo-political events (i.e. food security, terrorism, political instability) which may impact on the global supply chain of herbs and spices.
- Economic indicators making fraud more attractive.
- Food safety laws and their enforcement (i.e. the level of advancement of food controls and regulatory frameworks).

- Prevalence of corruption or any other cultural influences on business ethics.
- Advances in technology to mask food fraud.
- Additionally bear in mind the time-lag from events that may impact supply availability to noticing/identifying a food fraud issue could be as much as 12-18 months, based on time to market for some crops.

Once you have mapped your supply chain from a food authenticity perspective and identified vulnerabilities you should assess and prioritise your findings and take action to mitigate the identified risks. Mitigating actions may include the preventative measures set out in Section 2 as well as the verification and detection measures set out in Section 3. The Assessment of Supply Chain Vulnerabilities is an ongoing process which requires regular review.

## 3. Verification and Detection Measures

Prevention is always better than detection. Testing may be used to verify that preventative measures are effective and may assist in detecting issues but should not be relied on as a single control point.

### 3.1. Sampling and Inspection Programmes

Sampling and inspection programmes should be informed by knowledge from supply chain assurance activities as well as known vulnerabilities and horizon scanning activities (See Annex II).

You should use a recognised statistical sampling and inspection approach, which is appropriate for the substance being tested/inspected, fit for purpose and applied consistently, to ensure that the sampling is representative of the batch.

The European Spice Association's 'Quality Minima Document' describes key parameter limits for dried herbs and spices to inform purchasing of these products for further processing within the EU, and also lists some recommended analytical methods (see Section 6: Additional References).

### 3.2. Devising a Testing Strategy

It is important that you are clear about the objective of testing and what information you hope to obtain, as this will help you understand whether testing is necessary, to devise a suitable testing strategy and select a test capable of meeting your requirements.

Factors to consider in selecting an appropriate test method include the:

- type of material to be tested and how the sample will be selected; and
- suitability of available test methods, including their limitations.

The type of material being tested (the matrix) can have a considerable effect on the ability to accurately detect and, where applicable, quantify the substance of interest. A test may also indicate that a substance is present when it is not, for example, due to cross-reactivity with other related species. Some cross-reactivity will be known and therefore predictable but this is not always the case.



Herbs and spices are potentially one of the most complex and challenging matrices to analyse as they may be highly coloured and can contain chemically reactive components. These challenges are increased with blended products, which may bring about other chemical changes, and equally with composite products containing herbs and spices due to the added complexity of the matrix.

There will be cases where suitable and accurate testing methods are not currently available for the matrix of interest and the focus of assurance activity will therefore be on preventative measures.

### ***3.3. Selecting a Test Method and Laboratory***

Having an informed dialogue with your testing laboratory should give you the confidence that:

- the laboratory is appropriately accredited and competent to perform the test on the required matrix;
- the test method is appropriate for the matrix to be tested and meets your testing objectives; and
- you understand how the results of the test will be reported, to assist you in interpreting the results.

The laboratory should be able to provide assurances that the test method is appropriate.

Further information on suggested criteria for an organisation to be mindful of when employing the services of a laboratory/analytical service is available in Defra's Authenticity Methods Working Group's response to the Elliott Review (See References).

### ***3.4. Supply Chain Verification Measures***

In addition to companies' own checks, verification measures may include:

- Submission of pre-delivery samples for approval prior to purchase and/or approval on arrival; and
- Evidence of authenticity by the provision of appropriate test certificates from the supplier (using approved methods and accredited laboratories when possible), traceable to the batch codes and confirming conformance to specification parameters.

## **4. Receipt of Material**

You should review the material on receipt to ensure that it meets the agreed specification [See also Section 3.1 on sampling and inspection programmes].

Non-compliant materials should be disposed of or returned to the supplier in a timely manner.

Reporting issues with food safety consequences to the authorities is a legal obligation under EU legislation. Businesses should be aware of the regulatory requirements for all countries in which they trade.

Even in cases where you are not legally required to report an issue to the authorities, if you encounter a food integrity or authenticity issue with a product, you should consider whether there is merit in sharing information about this with the authorities. Equally, it is good practice to share information about issues encountered with trade associations or appropriate bodies to inform industry risk assessments.

## 5. Glossary

### **Adulteration**

Adulteration is the deliberate and intentional inclusion in herbs and spices of substances whose presence is not legally declared, is not permitted or is present in a form which might mislead or confuse the consumer, leading to an imitated food and/or a product of reduced value, as well as the deliberate and intentional removal of any valuable constituent from a spice or herb.

### **Blending/Mixing**

Spices and herbs provide a distinct, characteristic colour and/or flavour to food but, being a natural product, these can vary depending on where they are grown, weather conditions, crop season and other natural reasons. The blending together of different qualities of the same ingredient in order to reduce the natural variation in the aromatic profile (so called “standardization”) cannot be considered adulteration.

In other cases, blending together different qualities of the same ingredient can be done in order to achieve specific results (e.g. more or less pungency, improved machinability, improve colour). This cannot be considered adulteration either (see also Annex I).

### **Extraneous matter**

Extraneous matter is the term used to describe the presence of plant parts that are not the required one, for example stems or seeds in a leaf product. The European Spice Association’s (ESA) Quality Minima Document sets a maximum level of extraneous matter at 1% for spices and 2% for herbs. These levels can normally be achieved through a combination of Good Agricultural Practice followed by thorough physical cleaning (Good Manufacturing Practice).

### **Spent, partially spent or exhausted material**

Spent, partially spent or exhausted material is the by-product of essential oil or oleoresin production.

By-products may have lost their intrinsic bioactive characteristics completely or partially depending on the extraction method applied.

### **Standardization**

See Definition for ‘Blending/Mixing’

### **Brokers**

Companies that purchase or “take title” to product for resale to manufacturers, other brokers, retailers or food service companies but not directly to the consumer. They take legal responsibility under General Food Law and are considered to be a Food Business Operator under the terms of General Food Law.

### **Agents**

Non-manufacturing service providers that trade between a manufacturer or broker but do not take title to the products. Such companies provide a range of services to facilitate the safe and legal trade of products.

### **Importers/Exporters**

Companies that facilitate the movement of products across national boundaries satisfying legal and customs requirements. Importers and exporters may also be agents and/or brokers.

## 6. Additional References

### *Food Authenticity*

Defra Authenticity Methods Working Group Response to Elliott Review on 'Integrity and Assurance of Food Supply Networks'

- **Box 2:** Some Examples of Criteria for a 'Fit for Purpose' Analytical Laboratory
- **Box 3:** Six Principles of Analytical Best Practice to Achieve 'Fit for Purpose' Analytical Procedures [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/409253/amwg-elliott-response.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409253/amwg-elliott-response.pdf)

### **ESA Quality Minima Document:**

<http://www.esa-spices.org/download/esa-qmd-rev-5-september-2015-sc-update-as-per-esa-tc-27-10-15.pdf>

### **FDf Authenticity Guide:**

<http://www.fdf.org.uk/food-authenticity.aspx>

### **The U.S. Pharmacopeial Convention (USP) Guidance on Food Fraud Mitigation:**

[http://www.usp.org/sites/default/files/usp\\_pdf/EN/fcc/Notices/guidance\\_on\\_food\\_fraud\\_mitigation.pdf](http://www.usp.org/sites/default/files/usp_pdf/EN/fcc/Notices/guidance_on_food_fraud_mitigation.pdf)

### **BSI Standard for Sampling Procedures for Inspection**

<http://shop.bsigroup.com/Browse-By-Subject/Quality--Sampling/Full-list-of-statistical-standards/Acceptance-Sampling-Schemes/>

### *Food Safety and Labelling*

### **FSA Guidance on Allergen Management and Consumer Information**

<http://www.food.gov.uk/sites/default/files/multimedia/pdfs/maycontainguide.pdf>

### **Hazard Analysis and Critical Control Points (HACCP)**

<http://www.food.gov.uk/business-industry/food-hygiene/haccp>

### **Safer Food Better Business (SFBB)**

<https://www.food.gov.uk/business-industry/sfbb>

### **Guide to Protecting and Defending Food and Drink from Deliberate Attack PAS 96:2014**

<http://www.food.gov.uk/sites/default/files/pas96-2014-food-drink-protection-guide.pdf>

### **Safe and Local Supplier Approval (SALSA)**

<http://www.salsafood.co.uk/>

### *Good Agricultural and Manufacturing Practice*

### **Good Agricultural Practices**

<http://www.esa-spices.org/download/iosta-gap-final.pdf>

### **Codex Code of Hygiene Practices for Spices and Dried Aromatic Herbs CAC/RCP 42-1995**

[http://www.fao.org/fao-who-codexalimentarius/download/standards/27/CXP\\_042e\\_2014.pdf](http://www.fao.org/fao-who-codexalimentarius/download/standards/27/CXP_042e_2014.pdf)

### **FSA Imported Food Trade Information Sheet No 9 – Herbs and Spices**

<http://www.food.gov.uk/sites/default/files/multimedia/pdfs/tradeinfo09.pdf>

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### *UK Competent Authorities*

### **Food Standards Agency - Food Incidents**

<http://www.food.gov.uk/business-industry/food-incidents>

### **Food Standards Scotland - Food Incidents**

<http://www.foodstandards.gov.scot/food-safety-standards/food-incidents>

### **National Food Crime Unit - Reporting food fraud**

<http://www.food.gov.uk/enforcement/the-national-food-crime-unit/foodfraud>

### **DEFRA – Food Authenticity**

<https://www.gov.uk/government/groups/food-authenticity-steering-group>



# APPENDICES

## Annex I - Types and Methods of Adulteration, including Recommended Controls

This table sets types and methods of adulteration, including recommended controls. Please note where a product is adulterated with an allergen or non-food product, it becomes a food safety issue.

Types of Adulteration	Methods of Adulteration	Recommended Controls may include
<b>Extraneous matter from the same plant</b>	Non-functional parts of the plants, typically added at the grinding/blending stage (e.g. deliberate addition of sticks and stems in ground black pepper)	Visual inspection, microscopy and/or analysis to meet the standards defined in the ESA Quality Minima Document (e.g. extraneous vegetable matter - EVM - of 1% for spices and 2% for herbs; Volatile Oil Content)
<b>Extraneous matter from a different plant</b>	Parts of other plants of similar appearance, typically added at the cutting/grinding/blending stage (e.g. deliberate addition of foreign plant material in oregano)	Visual inspection, microscopy and/or analysis to meet the standards defined in the ESA Quality Minima Document (e.g. EVM of 1% for spices and 2% for herbs; Volatile Oil Content)
<b>Exhausted also referred as spent, defatted and depleted material</b> * spent material should not go back into the supply chain and should not be used in blending unless declared	Undeclared addition of by-product of essential oil, oleoresin and extrusion extraction at grinding/ blending stage (e.g. same plant but without bioactive principle – spent cumin in ground cumin)	Visual inspection, microscopy and/or analysis to meet the standards defined in the ESA Quality Minima Document (e.g. Volatile Oil Content; Residual Solvents Analysis)
<b>Colour enhancement</b>	Addition of non-permitted or undeclared colour at grinding/ blending stage (e.g. Sudan dyes in capsicums, oleoresin turmeric in ground turmeric)	Analysis by LCMS-MS/HPLC
<b>Misrepresentation</b>	Substitution with similar material of lower commercial value (e.g. undeclared cassia for cinnamon, safflower for saffron)	Analysis of key attributes (e.g. coumarin content in cassia or microscopy for safflower in saffron)
<b>Bulking</b>	Addition of undeclared bulking agents at grinding/ blending stage (e.g. starch in turmeric); potential for introduction of undeclared allergens (e.g. peanut protein through use of husks)	Analysis of key attributes (e.g. iodine for starch) e.g. ELISA/ PCR for detection of allergens

## Annex II - Generic Supply Chain Map for Herbs and Spices with Examples of Fraud Vulnerabilities



NB: Additional steps may take place during the supply chain e.g. blending. Consideration should also be given to typical food safety vulnerabilities which are not included in this diagram.

### Annex III – Typical Harvest Charts (Major Products and Origins)

Commodity	Botanical Name	Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Aniseed	Pimpinella anisum	Syria							█	█				
		Turkey						█	█					
Asafoetida	Ferula asafoetida	India		█	█	█								
Basil	Ocimum basilicum	Egypt					█	█						
Borage Leaf	Borago officinalis	Mediterranean Region							█	█				
Caraway	Carum carvi	Netherlands									█	█		
		Finland									█	█		
Cardamom	Elettaria cardamomum	Guatemala											█	█
		India	█	█							█	█	█	█
Cassia	Cinnamomum cassia/ aromaticum	China	█	█	█	█	█	█	█	█	█	█	█	█
	Cinnamomum burmannii	Indonesia	█	█	█	█	█	█	█	█	█	█	█	█
	Cinnamomum loureiroi	Vietnam	█	█	█	█	█	█	█	█	█	█	█	█
Celery Leaves	Apium graveolens dulce	France							█	█				
Celery Seed	Apium graveolens	India						█	█					
Chervil	Anthriscus cerefolium	Poland							█	█				
Chillies	Capsicum frutescens or annuum	India		█	█									
		China	█											
		Mexico											█	█
Chives	Allium schoenoprasum	China						█	█					
Cinnamon	Cinnamomum zeylanicum/verum	Madagascar	█	█	█	█	█	█	█	█	█	█	█	█
		Seychelles	█	█	█	█	█	█	█	█	█	█	█	█
		Sri Lanka	█	█	█	█	█	█	█	█	█	█	█	█
Cloves	Syzygium aromaticum	Comores										█	█	█
		Indonesia										█	█	
		Madagascar									█	█	█	█
		Sri Lanka	█	█										



Commodity	Botanical Name	Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Coriander Leaf	Coriandrum sativum	Egypt														
		UK														
Coriander Seed	Coriandrum sativum	Bulgaria														
		Canada														
		Egypt														
		India														
		Morocco														
		Romania														
		Russia														
Cumin Seed	Cuminum cyminum	China														
		India														
		Iran														
		Syria														
		Turkey														
Curry Leaf	Murraya koenigii	India														
		Sri Lanka														
Dill Seed	Anethum graveolens, Anethum sowa	India														
Dill Tops	Anethum graveolens	Poland														
Fennel Seed	Foeniculum vulgare	Egypt														
		India														
Fenugreek Seed	Trigonella foenum-graecum	Egypt														
		India														
Galangal	Alpina officinalis, Alpina officinarum, Keampferia galangal	Thailand														
Garlic	Allium sativum	China														
		China														
Ginger	Zingiber officinale	India														
		Nigeria														

Commodity	Botanical Name	Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Grains of Paradise	Aframomum melegueta	W Africa	█	█											
Juniper Berries	Juniperus communis	Italy									█	█			
		Macedonia										█	█		
Kaffir Lime Leaf	Citrus hystix	Thailand						█	█	█					
Laurel (Bay) Leaves	Laurus nobilis	Turkey								█	█	█			
Lavender Flower	Lavandula officinalis	UK								█	█				
Lavender Leaf	Lavandula officinalis	UK							█	█	█				
Lemongrass	Cymbopogon citratus	Thailand						█	█	█					
Lovage Leaf	Levisticum officinale	Poland						█	█	█					
Lovage Root	Levisticum officinale	Poland							█	█	█				
Mace	Myristica fragrans, Myristica argentea	Grenada						█	█						
		Indonesia						█	█	█					
Marjoram	Majorana hortensis, Syn. Origanum majorana	Egypt				█	█	█							
Mexican Oregano	Lippia graveolens	Mexico				█	█								
Mustard Seed	Sinapis alba, Sinapis nigra, Brassica nigra, Brassica juncea	Canada								█	█				
		India	█	█	█										
		Russia									█	█			
Nigella Seed (Kalonji seed)	Nigella sativa	India			█	█									
Nutmeg	Myristica fragrans	Grenada						█	█						
		India	█	█	█										
		Indonesia							█	█	█				
		Sri Lanka	█	█	█										
Onion and shallot	Allium cepa & Allium cepa var. aggregatum	Egypt			█	█	█								
		India							█	█				█	
Oregano	Origanum vulgare, Origanum onites	Turkey						█	█						
Paprika	Capsicum annum or frutescens	China			█	█									
		Peru									█	█	█		
		Spain									█	█	█		

Commodity	Botanical Name	Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Parsley	Petroselinum crispum, Petroselinum sativum	Egypt														
		Germany														
		UK														
Pepper Green	Piper nigrum	India														
Pepper Black	Piper nigrum	Brazil														
		India														
		Indonesia (Lampong)														
		Malaysia (Sarawak)														
		Sri Lanka														
		Vietnam														
Pepper White	Piper nigrum	China														
		Indonesia (Muntok)														
		Malaysia (Sarawak)														
		Vietnam														
Pepper Pink	Schinus terebinthifolius, Schinus molle	Brazil														
		Madagascar														
		Reunion Islands														
Pepper Cubeb, Java Pepper	Piper cubeba L.	Indonesia														
Peppermint	Mentha piperita	Egypt														
Pimento (Allspice)	Pimenta dioica	Guatemala														
		Honduras														
		Jamaica														
		Mexico														
Rosemary	Rosmarinus officinalis	Morocco														
		Spain														
		Turkey														
Saffron	Crocus sativus	Iran														
		Spain														



Commodity	Botanical Name	Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Sage	Salvia officinalis, Salvia triloba	Turkey						█	█	█					
Sumac	Rhus coriaria	Turkey						█	█	█					
Savory Summer	Satureja montana	Albania						█	█						
Savory Winter	Satureja hortensis	Albania										█	█		
Szechuan Pepper	Zanthoxylum piperitum	China								█	█	█			
Spearmint	Mentha spicata	Egypt						█						█	
Star Anise	Illicium verum	China										█	█		
		Vietnam										█	█		
Tarragon	Artemisia dracunculus	France						█	█						
Thyme	Thymus vulgaris, Thymus zygis, Thymus serpyllum	Morocco						█	█						
		Spain						█	█	█					
Turmeric	Curcuma longa	Ethiopia		█	█										
		India	█	█	█										
		Indonesia													
		Myanmar	█	█											
		Vietnam		█	█										
Vanilla	Vanilla planifolia, Vanilla tahitensis	Madagascar					█	█							

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## **GUIDANCE ON AUTHENTICITY OF HERBS AND SPICES**

Industry Best Practice on Assessing and  
Protecting Culinary Dried Herbs and Spices

### **British Retail Consortium**

| [www.brc.org.uk](http://www.brc.org.uk)

### **Food and Drink Federation**

| [www.fdf.org.uk](http://www.fdf.org.uk)

### **Seasoning and Spice Association**

| [www.seasoningandspice.org.uk](http://www.seasoningandspice.org.uk)

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Food and Drink  
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