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## UK FLOUR MILLERS BRIEFING DOCUMENT

# Allergen labelling for flour customers

Revised August 2017

### Introduction

The labelling of allergens and 'potential' allergens is a challenge for customers of UK flour millers. It is not always easy to understand the potential for allergens entering the flour supply chain or to be able to accurately quantify the risks. This document aims to provide background information on allergens that may potentially be associated with flour from UK flour millers.

### Background

An allergen is a substance, usually a protein, capable of inducing an allergic reaction. An allergic reaction is a reproducible adverse reaction that can be produced by a tiny amount of the substance to which a person is sensitive. An allergy involves the immune system, whereas intolerance does not.

EC Regulations have identified 14 specific allergens (see Appendix) that must be declared on food labels when used as ingredients. Of most concern to flour millers and their customers is soya, although mustard and lupin have been investigated as possible allergenic contaminants in the past. Clearly, all wheat contains gluten which may be allergenic to sensitive individuals. Labelling regulations apply only to ingredients and do not cover possible adventitious contamination with allergens.

### Labelling

In December 2014, the Food Information Regulation (FIR) came into effect and codified, updated and replaced previous UK controls on food labelling. These changes require allergen labelling on all food whether it is sold pre-packed or loose. For pre-packed foods, allergens must be highlighted on the ingredient list and if it is not obvious from the name of the ingredient there must be clear reference to the allergen.

Manufacturers sometimes use phrases such as "may contain nuts" or "not suitable for someone with a nut allergy" to show that there could be small amounts of nut in a food product, either in the ingredients or because it has entered the product accidentally during the production process. It is not a legal requirement to indicate on the label that a food may contain small amounts of an allergen but many manufacturers label their products in this way if, following a thorough risk assessment, there is a risk of allergen cross-contamination.

Under the FIR, it is still possible to indicate the possible presence of allergens through cross-contamination in a separate box e.g. 'Allergy Advice: For allergens see ingredients in **bold**. Also, 'may contain...' statements can be considered although the FSA has advised that the use of these statements should be made with care and only after an appropriate risk assessment has been made.

Further guidance can be found at:

<http://www.food.gov.uk/science/allergy-intolerance/label>

<http://food.gov.uk/business-industry/allergy-guide/>

## Soya

Soya beans are an important source of vegetable oil and protein. Soya flour is used as an ingredient in many processed foods because it increases their shelf-life and improves the colour of pastry crusts and bread. It is now clear that soya protein frequently occurs as an adventitious contaminant in wheat so that its absence from flour cannot be guaranteed.

On farms, soya may be grown or used to feed livestock and such farms may also be growing wheat. Wheat is often transported in the same ships, rail trucks or lorries that have been used to carry soya/soya meal and port terminals also handle a range of crops including soya. Therefore there is a risk of adventitious contamination at various stages of the supply chain and this poses a risk to the small minority of consumers who are allergic or intolerant to soya protein.

**UK Flour Millers** has undertaken studies to examine the risk from the cross-contamination of wheat flour with certain allergens. This has indicated a significant chance of cross-contamination with soya in 50% of the flour samples tested. This was greatest in flour containing wheat from North America (100%) but was also significant in flour containing wheat imported from France and Germany (33%). Flour made from only UK wheat had a 10% chance of containing soya protein.

In 2014 the FSA conducted a risk assessment and then a survey of flour from 13 milling premises by collecting 61 samples. The results showed lower levels of soya than in the two **UK Flour Millers** surveys and due to the low risk, the FSA concluded that there is no requirement to routinely use a 'may contain soya' statement on packaging.

The significance of this soya protein depends on the subsequent use of the flour. However, currently in Europe there is no agreed risk-based methodology for food producers to assess the impact of allergen cross-contamination. Also, there is no agreed reference dose defined for soya protein below which only the most sensitive individuals in the population are likely to experience an adverse reaction. However, a recent scientific paper<sup>1</sup> indicated a reference dose for soya protein to be 1.0mg but the FSA based their risk assessment on a much higher dose of 236mg using another scientific paper<sup>2</sup>. Reference doses represent a judgement about accepted risk and, in the case of soya, further

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<sup>1</sup> R W R Crevel et al. (2014) Development and evolution of risk assessment for food allergens. *Food & Chemical Toxicology* 67, 262-276.

See also, R W R Crevel et al. (2014) Translating reference doses into allergen management practice: Challenges for stakeholders. *Food & Chemical Toxicology* 67, 277-287.

<sup>2</sup> Remington *et al.* (2013) Soy in wheat - contamination levels and food allergy risk assessment. *Food and Chemical Toxicology*.62, 485-491.

work may be required. A more comprehensive report (from ILSI Europe) is imminent and may supply more guidance.

A similar situation exists in Canada where soya is grown alongside wheat. The national authority 'Health Canada' takes a pragmatic approach by advising consumers that cereals may contain low levels of soya because of the way these grains are grown, harvested, transported and stored. They further add that this cross contamination is not a new issue, but rather has always been present as part of normal agricultural practices. Based on the low levels of soya that have been detected in grain-based foods, Health Canada has determined that exposure is not likely to represent a health risk for soya allergic individuals.

Many customers are concerned about the presence of allergens in their products and ask their suppliers to provide increasing levels of information. The recent evidence from **UK Flour Millers** studies suggest that, due to adventitious cross-contamination in the supply chain, wheat flour may contain typically in the range 0.5 – 20ppm (0.00005 - 0.002%) of soya protein, but in some cases this can be as high as 500ppm (0.05%).

Each business will develop statements that best reflect the risk from their individual operations. However, given the nature of the wheat supply chain there are over-riding factors that will influence the best practice approach to labelling.

Soya should not be labelled as an ingredient except where it is specifically added. Flour is produced without the addition of soya, in mills which do not process soya, but within a supply chain which handles soya. Generally, it is impossible to give a guarantee that soya is absent. This can only be given where the wheat is grown locally, is transported in vehicles dedicated to the purpose (and where no other commodities are carried) and where no imported wheat is milled in the same site.

Sometimes customers seek reassurance that a product is suitable for sufferers of a food allergy/intolerance to soya. This depends on the sensitivity of the individual to the dose. Except in the case of people who are highly sensitive the typical level of soya protein (less than 20ppm) in wheat flour is unlikely to cause a reaction in most sensitive individuals. However, there may be occasions where the level in flour exceeds 100ppm.

## **Mustard**

Mustard is on the allergen list and sometimes analytical tests carried out by customers suggest its presence in flour. Mustard is grown in a relatively small area of the UK (close to Norwich) and is not transported over significant distances. Studies commissioned by **UK Flour Millers** indicate an absence of mustard protein in flour. However, mustard DNA may occur in some oilseed varieties which may result in false positive reactions when testing. Similarly the presence of charlock seeds (a common arable weed) may also give false positive cross-reactions. The risk of cross-contamination with mustard is extremely low.

## **Lupin**

Lupin is on the allergen list and sometimes analytical tests suggest the presence of lupin protein in flour. The risk of cross-contamination with lupin is extremely low because this is not a crop currently grown in the UK. Studies commissioned by **UK Flour Millers** indicate that some tests may produce false positive cross-reactions.