Retail Surveillance Sampling Programme during Covid-19 pandemic - Conclusions

Conclusions

Consumers need to have confidence that their food is safe and what it says it is. This project undertook surveillance sampling to determine the extent of compliance of a number of food commodities throughout England, Wales and Northern Ireland during the Covid-19 pandemic which altered food supply chains and increased pressure on the supply of food.

82% of samples tested were reported as compliant for the tests carried out and therefore deemed to be safe and what it said it was.

Food Authenticity and Adulteration

The project included tests for authenticity and adulteration of meat and fish products, herbs and spices, basmati rice and durum wheat pasta. Generally, the motive for food adulteration is cost as expensive ingredients are substituted with cheaper alternatives but could also be due to poor hygiene practices which enables carry over of products during processing, Exact causes of the adulteration can only be determined by further investigation with the FBO and manufacturer.

A key finding of this project is that no horse meat was detected in any of the 300 meat samples tested. Following the 2013 horsemeat scandal measures were put in place to tighten up supply chains and these results suggest that there is no longer large-scale infiltration of horse meat into the food chain.

However, 21% of the meats tested did contain additional meat species that the consumer would not expect to find. Beef products had the lowest level of contamination with less than 5% of products containing DNA from other species. All of the burgers and ready meals sampled in this project only contained beef.

Goat can be sold at a premium price and had the highest proportion of adulterated samples with only 3 out of the 10 samples tested wholly comprising of goat meat and 4 containing no goat DNA at all.

Minced meat products are attractive targets for adulteration. The production process makes it easy to use alternative ingredients and the appearance and nature of the final product makes it difficult for the consumer to detect any malpractice. Almost 60% of lamb mince were found to contain other meats as were over 40% of pork mince samples tested.

Premium fish products such as cod, haddock and plaice have all been identified as potential commodities for substitution. Only 4% of fish products tested had different DNA to the species expected and these were all haddock samples.

The largest number of samples were taken for sub project P3 which tested 375 herbs and spices for authenticity using microscopy. 10.4% of the samples were reported as non-compliant with many of these deemed not to be of the quality demanded due to the high proportion of extraneous plant matter present. Only 4 of the samples had missing or substituted ingredients.

The intelligence for including sage samples in the sub project was based on research carried out at the Institute for Global Food Security (IGFS) at Queen's University, Belfast which showed that just over 25% of the 19 sage samples analysed in August and September 2020 were heavily adulterated (10). This research used a tailored blend of spectroscopy and chemometric modelling to identify a food fingerprint. This method is currently not an accredited official control method and as such samples analysed for herb and spice authenticity during this project used light microscopy methods and Public Analyst expertise.

Basmati rice sells at a higher price than other rice varieties and 6 out of 40 basmati rice samples were reported as having been adulterated with either non-basmati rice varieties or with a basmati rice different to the marked variety.

Durum wheat pasta was the only commodity tested for adulteration that had 100% compliance.

Food Contamination

Some of the herbs and spices sampled were tested for the presence of heavy metals and aflatoxins. 1 sample of curry spice mix had levels of aflatoxin B1 above legislative levels. No contamination with heavy metals was detected in any of the herbs and spices analysed.

Presence of unlabelled allergens

Consumers managing food allergies have to rely on products being correctly labelled to ensure that they do not suffer allergic reactions which can be severe and, in some cases, fatal. Milk free products and gluten free flours were tested for the presence of the respective allergens.

There is increasing demand for dairy free alternatives not only by consumers managing milk allergies but also by those concerned about sustainability and animal welfare or making specific dietary choices. For those with a milk allergy it is essential that these products do not contain milk proteins.

All of the milk free dairy alternative products tested were free of milk. Milk was detected in 8 out of 140 samples with 15% of dark chocolate samples testing positive. All of the gluten free flours tested were free from gluten allergens.

Composition and labelling

The 300 meat products were tested for composition and labelling as well as speciation. It is important that food is authentic and matches its description. Food labels are a legal requirement and are crucial in delivering key information to consumers including ingredients, nutrition and allergy information so that they can make informed choices based on diet, allergies, personal / religious beliefs or cost.

23% of meats were non-compliant for composition or labelling requirements. 8% of meats had no quantitative ingredient declaration meaning that consumers were not informed of the amount of meat in the product. 8% had a meat content lower than declared and 4% had excess fat.

Retail Outlet Types

Samples purchased via the internet had the highest rate of non-compliance with around a third of the 102 samples ordered on-line not meeting all of the legislative requirements. Approximately one fifth of samples bought from independent retailers including takeaways were deemed by Public Analysts to be non-compliant. Samples bought from large retailers had the lowest level of non-compliance although around one in eight samples were still reported as unsatisfactory.

Secondary benefits to the project

This project highlights the importance of undertaking surveillance sampling in order to provide intelligence and evidence of the safety and authenticity of food and provided an excellent opportunity for the 5 OLs to work together in a co-ordinated manner.

The project led to improved collaborative working and an improved increase in the flow of information between the OLs and the FSA. It also strengthened the enforcement network by making connections between national, regional and local knowledge. Regular communication between OLs and the FSA has enabled intelligence sharing not only with regards to this project but also other aspects of enforcement.