

## Scion seeks to understand China's food contact requirements

Lou Sherman, Packaging Research Leader, Scion, New Zealand



### Close contact with China

Packaging plays an extremely important role protecting goods while they travel to market. Unfortunately, there is a risk that components of the packaging could migrate into the product and have a negative impact on quality and safety, something that is particularly important when packaging food.

Food packaging has to protect its contents from the outside world but also not release any chemicals or compounds into the food at levels harmful to human health or that change the food's texture, taste or smell.

The safe use of packaging and other materials such as printing inks or adhesives or surfaces that come into contact with food during production and processing is highly regulated. The regulations are complex and vary around the world. Exporters need to understand and meet the regulations of the countries their goods are exported to.

### What do the new regulations mean for exporting to China?

China has recently reviewed their requirements and, to maintain market access, there is a need for packaging manufacturers and those who are exporting food into China to get up to speed quickly. The changing Chinese regulations for food contact packaging means not only must exporters ensure their current packaging is compliant, but also meaning that innovation in packaging becomes more difficult. There are many opportunities to develop new packaging that provides better protection for the food inside, is lighter weight or uses novel materials, but meeting regulatory requirements can be a barrier to implementing these.

Scion's packaging team has been working with the New Zealand China Food Protection Network to establish a platform for ongoing knowledge exchange in the area of packaging compliance with the goal of overcoming these barriers. As a first step, reciprocal visits between experts in China and New Zealand have been arranged.

Packaging specialist Professor Chang Ying Hu has visited New Zealand to explain the new regulations to local exporters and help them to understand how changes might affect them.

Chang Ying Hu is a professor at the College of Science and Engineering (Jinan University) in the Department of Food Science and Engineering. Her research interests focus on two aspects: functional foods and food packaging (including safety). She has over 20 years research experience in functional food development and packaging for food safety, and has published over 100 papers and filed 5 patents, as well as being the specialist commissioner in agricultural science and technology for the province Guangdong. She is also an editorial member of the journal of Packaging Engineering, and the visiting scholar in Rutgers, the State University of New Jersey in the USA.

Professor Hu gave a seminar on Chinese food contact requirements to interested parties from industry and academia at Scion on February 12. People unable to make it on the day were able to view the seminar via Zoom. Overall around 50 people attended the seminar.

Professor Hu also spent time with Scion scientist Eva Gaugler in the laboratory learning about the compliance test methods used at Scion, as well as discussing topics such as non-intentionally added substances and nanoparticles.

Lou Sherman, Packaging Research Leader says, "This is an area of real uncertainty for packaging suppliers and exporters. I am grateful that the NZCFPN has funded this visit and I am glad that so many people from industry have taken the opportunity to attend".

## The new regulations

In China, new regulations for food contact materials (FCM) came into force between 2015 and 2017 with further regulations still in development. The most important of the new standards are GB 4806.1-2001, which covers general requirements, and GB 9685-2016, which focusses on the use of additives for food contact materials and products.

GB 4806.1 requires, among other things, that FCMs and food contact additives comply with relevant restrictions and food safety standards; that FCMs are traceable from production to distribution and are sold with product information such as product name and material, declaration of conformity to relevant laws, regulations and standards, producer/dealer contact information, instruction for use, and qualification certificate.

GB 9685 lists allowed additives for producing various food contact materials and articles, their use scope and restrictions. In some cases, total migration limits have been revised. Where possible the same requirements as EU and FDA have been adopted, but there are some differences.

Ten further standards address specific types of materials and articles including GB 4806.8-2016 which covers paper and paperboard for food contact use. Test methods are defined in a further 41 standards.

## Declaration of compliance

The process for declaration of compliance for listed additives starts with the manufacturer of the food contact additive checking that it is listed in GB 9685-2016 and that it is permitted for the intended use. The manufacturer of the FCM then ensures the FCM complies with the corresponding

food safety standard, conducts migration testing to verify compliance if necessary and provides product information to downstream users including the declaration of compliance and labelling. Food packaging or food companies request product information from the supplier of FCMs, including the declaration of compliance. The final user of the FCM may also need to carry out product testing in some cases.

## Plans for further knowledge transfer

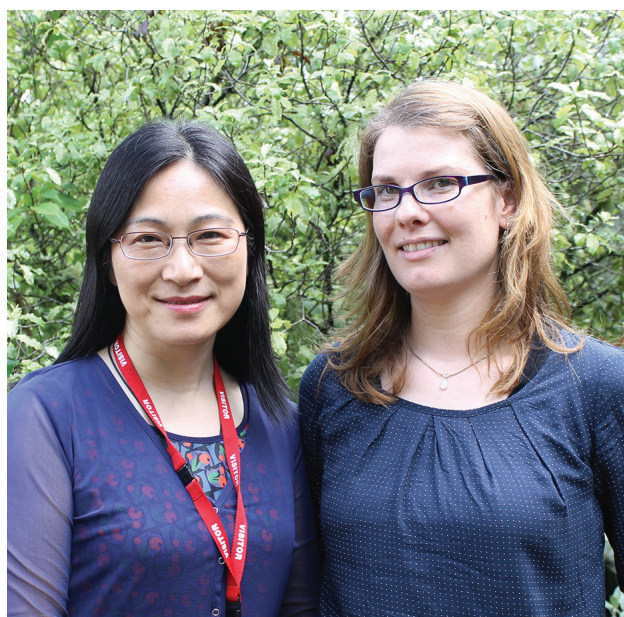
From the New Zealand side, Scion scientist Eva Gaugler is planning to visit Jinan University in June this year.

Eva leads the food contact compliance work at Scion. She is an expert on the regulatory compliance of FCM. Eva has been involved in the development of new food contact materials and has been responsible for ensuring they comply with relevant regulations. Her work in this area is supported by her expertise in the chemical analysis of polymers and chemicals including techniques such as size exclusion chromatography (SEC/GPC) and spectroscopy (FTIR, NMR). She is also on the Appita Committee on Food Contact Materials, which is charged with reviewing and disseminating information relevant to food safety for food contact materials amongst members.

In China, Eva plans to deepen her understanding of Chinese regulatory requirements for paper, plastic, printing inks. Her visit will include laboratory and facility tours to learn about capabilities and test set-ups for food contact compliance testing. Eva will also visit relevant industry partners and attend the 21st International Association of Packaging Research Institute's world conference in June.



**Above:** Professor Chang Ying Hu lecturing



**Above:** Professor Chang Ying Hu and Professor Eva Gaugler