

Global fresh produce supply chain must consider climate change in order to ensure food safety

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This was the key recommendation of the EU-funded VEG-I-TRADE project, which was launched in 2010 to assess the safety of fresh produce in a rapidly evolving context of climate change and expanding international trade.

'Global warming is often associated with challenges concerning food security – the production of sufficient food to feed the world,' says [project](#) coordinator Mieke Uyttendaele from Ghent University, Belgium. 'However, the potential impact on [food safety](#) is often overlooked.'

VEG-I-TRADE studies revealed that the microbial ecology of plants is

influenced by a web of complex interactions between climate, environment, biological, technical and cultural factors. A shift in one of the factors can lead to changes to the whole web, potentially impacting the safety of fresh produce.

A major outcome of the project has been a series of recommendations and findings that many national competent authorities, industry associations and private companies have used to reinforce their own guidelines, or to carry out adaptation scenarios with the aim of taking the safety of fresh produce to the next level.

'Overall, VEG-I-TRADE successfully enhanced dialogue and created a multidisciplinary network of professionals that will be sustained through ongoing international collaborations,' says Uyttendaele. 'Some of our outcomes are now available as e-learning modules for local and global training programmes.'

From the start, project partners from the EU and beyond used field samples and a self-assessment tool to track the status of best practices and management systems implemented at primary production, processing or trade level. 'The pros and cons of various water treatment technologies for example were documented. In addition to water management, other key areas included personal hygiene, documentation and record keeping, storage and transport,' says Uyttendaele.

The results of the project's supplier survey were recently published. Key issues included the need to pursue water recycling strategies, which should be carried out without compromising food safety. Regulatory standards and certification were seen as both a catalyst for best practice and a non-tariff barrier to trade, with the need for science-based assessment highlighted.

From the overall VEG-I-TRADE results database, it was also notable

that elevated levels of E. coli increased the likelihood of detecting pathogenic bacteria such as Salmonella. However the occurrence and levels of E. coli in irrigation water and harvested produce varied, depending on local circumstances. 'While setting E. coli indicator threshold values to alert producers can be useful, the project recommends that these should be set taking into account the local circumstances,' says Uyttendaele.

While VEG-I-TRADE was officially completed in April 2014, the positive impact of the project on fresh produce safety is likely to be long-lasting. Members of the consortium contributed to the drafting of European Food Safety Authority (EFSA) Opinions in 2013 and 2014 on the risk posed by pathogens in foods of non-animal origin, along with revised Codes of Practice for fresh produce at the global Food and Agriculture Organization of the United Nations (FAO)/World Health Organisation (WHO) Codex Alimentarius level. Project partners have also contributed to new EU recommendations currently in the pipeline on ensuring hygiene and [safety](#) in [fresh produce](#) production.

More information: For further information please visit VEG-I-TRADE: www.veg-i-trade.org/

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