



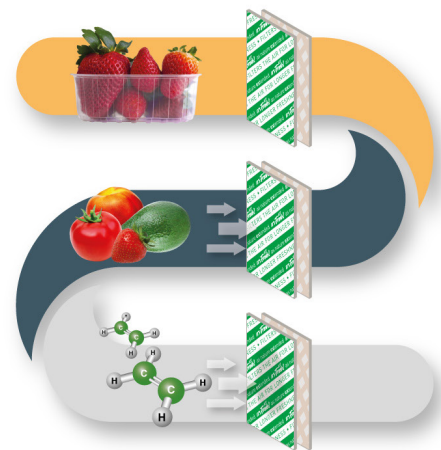
### Extending shelf-life of fresh fruit and vegetables

A new product e+<sup>®</sup> was developed by our Chemical Products business to help extend the shelf life of fruits and flowers.\* This is a material that can effectively remove the ethylene produced by fruits while they are ripening. By removing the low level ethylene as it is first produced it is possible to delay the ripening process and extend the shelf life of such fruits as avocados, strawberries, tomatoes, melons, mangos, cherries as well as cut flowers and pot plants. Other crops have a physiological response to ethylene, e.g. citrus fruit, grapes, asparagus, lettuce and pineapples.

Control of ethylene will avoid:

- premature ripening of fruit
- fading or wilting in flowers
- early sprouting in root vegetables
- loss of green color/bitterness in vegetables.

- The filter goes inside the retail or transit pack
- It starts attracting ethylene immediately
- The ethylene is absorbed and locked in



### Further research

Research at Cranfield University demonstrated the ability of

e+<sup>®</sup> to extend the life of bananas and avocados by removing ethylene gases that cause ripening. e+<sup>®</sup> effectively controlled ethylene to sub-physiologically active levels.

Additional testing at Cranfield demonstrated the impact of e+<sup>®</sup> on the nutritional and taste aspects of the avocado. Test results showed the extension of shelf-life in cold storage using e+<sup>®</sup>, with fruit softening delayed for two weeks. Ripening was not impeded at ambient temperature once fruit was removed from cold storage with e+<sup>®</sup>. There was no degradation of avocado-derived fatty acids (nutritional) and sugars (taste) using e+<sup>®</sup> as compared to control.

\* The technology is licensed to [Food Freshness Technology Ltd.](http://www.foodfreshnesstechnology.com) and commercialised.