

## IIT Guwahati develops edible coating to prolong shelf-life of produce

10 September 2022 | News

Researchers at IIT Guwahati, led by Prof Vimal Katiyar, Department of Chemical Engineering and Centre for Excellence in Sustainable Polymers (CoE-SusPol), have developed an edible coating to extend the shelf-life of fruits and vegetables. This coating material, which prevents wastage, is tested on vegetables such as potato, tomato, green chili and strawberries, Khasi Mandarin, Apples, pineapples, Kiwifruits and were found to keep these vegetables fresh for nearly two months. The researchers believe that their development can help the country meet the Sustainable Development Goal (SDG) target 12.3 that is aimed at reducing food losses along the production and supply chains, including post-harvest losses. Highlighting the need for such research, Prof Vimal Katiyar, Department of Chemical Engineering, IIT Guwahati, and CuSPol, IIT Guwahati, spoke, “According to the Indian Council of Agricultural Research, between 4.6 and 15.9 per cent of fruits and vegetables go waste post-harvest, partly due to poor storage conditions. In fact, post-harvest loss in certain produce items like potato, onion and tomato could be as high as 19 per cent, which results in high prices for this highly consumed commodity.” Speaking about the developed biodegradable coating, Prof. Vimal Katiyar, Department of Chemical Engineering, IIT Guwahati, “The newly-developed coatings can be mass-produced and are unique. They are very stable to light, heat and temperature up to 40°C, edible and can be safely eaten as part of the product formulation and do not add unfavorable properties to it. They retain the texture, color, appearance, flavor, nutritional value and microbial safety of the fruit or vegetable that has been coated, thereby enhancing their shelf life to several weeks to months.”



Researchers at IIT Guwahati, led by Prof Vimal Katiyar, Department of Chemical Engineering and Centre for Excellence in Sustainable Polymers (CoE-SusPol), have developed an edible coating to extend the shelf-life of fruits and vegetables. This coating material, which prevents wastage, is tested on vegetables such as potato, tomato, green chili and strawberries, Khasi Mandarin, Apples, pineapples, Kiwifruits and were found to keep these vegetables fresh for nearly two months. The researchers believe that their development can help the country meet the Sustainable Development Goal (SDG) target

12.3 that is aimed at reducing food losses along the production and supply chains, including post-harvest losses.

Highlighting the need for such research, Prof Vimal Katiyar, Department of Chemical Engineering, IIT Guwahati, and CuSPol, IIT Guwahati, spoke, â??According to the Indian Council of Agricultural Research, between 4.6 and 15.9 per cent of fruits and vegetables go waste post-harvest, partly due to poor storage conditions. In fact, post-harvest loss in certain produce items like potato, onion and tomato could be as high as 19 per cent, which results in high prices for this highly consumed commodity.â? Speaking about the developed biodegradable coating, Prof. Vimal Katiyar, Department of Chemical Engineering, IIT Guwahati, â??The newly-developed coatings can be mass-produced and are unique. They are very stable to light, heat and temperature up to 40oC, edible and can be safely eaten as part of the product formulation and do not add unfavorable properties to it. They retain the texture, color, appearance, flavor, nutritional value and microbial safety of the fruit or vegetable that has been coated, thereby enhancing their shelf life to several weeks to monthsâ?.