

FLEXFRESH™ BY UFLEX - MAKING GREAT STRIDES IN GLOBAL FRESH PRODUCE PACKAGING



India's largest multinational flexible packaging materials and Solution Company Uflex has given the much needed shot in the arm to the exporters of fresh produce around the globe. Flexfresh packaging solution extensively increases the shelf-life of fresh produce like fruits, vegetables and flowers making it possible for the exporters to switch to economic sea freight rather than expensive air-freight.

Agri Business & Food Industry (ABFI) recently caught up with **N. Siva Shankaran**, (NSS) Vice President, Flexfresh at Uflex Limited for gaining better insight into the packaging solution.



ABFI: Please tell us about Flexfresh Packaging Solution?

NSS: We at Uflex had been working on introducing a technology to extend shelf life of fresh produce which is highly perishable. In 2014 we developed, globally unique Flexfresh liner bags made of a film with special patented proprietary polymeric composition.

Flexfresh works on Active Modified Atmospheric Packaging Technology (AMAP) for elongating the shelf life of fresh produce like fruits, vegetables and flowers. This solution works in conjunction with Fast Respiration Meter and Laser Perforation system supplied by Perfotec B.V. of The Netherlands. While the respiration meter ascertains the respiration rate of the

fresh produce, the laser system uses this information to adapt the permeability of the film with the help of perforation matrix.

In Flexfresh, equilibrium of oxygen and carbon dioxide is maintained at all times while restricting the humidity between 90-95% to avoid condensation. The effect of ethylene emitted by the produce is greatly reduced during ripening amidst high humidity. The bag exhibits good carbon dioxide release characteristics. We use neither gas flushing nor compressed vacuum technique. The amount of oxygen required

by the product is the key point of the packaging. This is controlled by the perforation. The number of micro-perforations required is decided on the basis of Oxygen and Carbon Dioxide required inside the bag. Flexfresh is the first ever film for packing fresh produce that is bio-degradable by composting and complies with all international regulations for overall migration (EC 1935/2004), reach compliance (EC 1907/2006) and qualifies for biodegradation under DIN EN 13432 (2000-12).

ABFI: Can you take us

Flexfresh liner bag has recently been accredited by Indian Council of Agricultural Research – National Research Centre on Pomegranate (ICAR-NRCP), Solapur, Maharashtra.

through a few success stories of Flexfresh?

NSS: There are several success stories and it may not be possible to elicit all details owing to paucity of space. However I am hereby discussing a few:

Waterless Internet Flower Packaging is being extensively tried by E-commerce companies and Flower Retailers across the world. Flowers are put to slow respiration mode for preventing excess oxidation and spoilage. Flexfresh™ keeps the flowers breathing in hydrated oxygen and releases excess humidity keeping them touch dry. This extends the shelf life of the flowers to as much as 21 days which is longest in comparison to any other packaging solution currently available. This also alleviates the use of water in

the international supply chain of the flowers making the sea shipments lighter and cost efficient. Over and above the 21 days that Waterless Internet Flower Packaging offers in terms of shelf life, 7 days of vase life is also guaranteed at the consumer's end making the deal yet lucrative. There is an encouraging demand for Waterless Internet Flower Packaging for various flower producing countries.

A leading Dutch Bell Pepper exporter has commenced shipping its produce to USA by sea containers. The exporter is happy with the arrival quality and intends to export over 300 containers from Holland to USA after conducting successful trials by sea container earlier in 2015.

An Indian Pomegranate grower has been supplying its produce to Europe. Extensive trials were conducted during 2015 and in 2017 over 300+ containers of pomegranates were exported to Europe and other countries, to leading super markets with excellent quality upon arrival.

A prominent European Retail Chain conducted a litmus trial with Flexfresh bags by shipping Blueberries from South America to Europe. This journey usually takes more than 5 weeks by sea. The results have been MORE THAN ASTOUNDING! While the loose blueberries resulted in an average weight loss of 19.96%, those packed in Flexfresh shed merely 0.76% weight after a period of 7 weeks, thus registering a phenomenal 96% reduction in weight loss upon arrival.

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Centre on Pomegranate (ICAR-NRCP), Solapur Maharashtra.

In March 2017, Waterless Internet Flower Packaging was awarded with 2 Gold and 2 Silver Awards by Flexible Packaging Association (FPA) for extending the use of flexible packaging, supporting sustainability, technical innovation and packaging excellence. In December 2017 All India Manufacturing

Association (AIMA) also awarded the first prize to Waterless Internet Flower Packaging as a breakthrough process innovation in manufacturing and services.

ABFI: Can you tangibly list the shelf life extension that you may have achieved for various fruits, vegetables and flowers in your trials and experiments?

NSS: I am pleased to

state that we have been able to tremendously achieve shelf-life extension for the following:

1. Broccoli - 49 Days
2. Cauliflower - 25 Days
3. Iceberg Lettuce - 21 Days and for all varieties of Lettuce
4. Okra (Bhindi) - 27 Days
5. Green Chillies - 30 Days
6. Tomato - 25 Days
7. French Beans - 25 Days
8. Lauki (Bottle Gourd) - 25 Days
9. Ivy Gourd (kunduru)- 23 Days
10. Bitter Gourd (Karela) - 20 Days
11. Zucchini - 25 Days
12. Coriander (Dhania) - 15 Days
13. Dill Leaves (Savaa) - 15 Days
14. Spinach (Palak) - 13 Days
15. Lemon - 30 Days
16. Brinjal (Eggplant) - 15 Days
17. Banana - 58 Days
18. Blueberry - 49 Days
19. Mango - 20-30 Days (Depending on the Variety)
20. Mangosteen - 35 Days
21. Rambutan - 20 Days
22. Litchi - 30 Days
23. Plum - 25 Days
24. Peach - 20 Days
25. Nectarines - 23 Days
26. Cherries - 30 Days
27. Strawberries - 15 Days
28. Pomegranate - 90 Days
29. Pear - 30 Days
30. Papaya - 30 Days
31. Flowers - 21 Days + 7 days of Vase Life

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