NanoPack Antimicrobial Film Extends Shelf Life of Fresh Cherries by 40%

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Providing better fresh produce, bakery products and proteins, by producing packaging for extending their shelf-life and quality, is the core objective of the EU-funded NanoPack Project. The active packaging materials are now being tested with a wide range of products and are showing some remarkable results.

Fresh cherries, which were packed in NanoPack antimicrobial film, containing low concentration of various natural essential oils, exhibited an increased shelf life of 40 percent.

The cherries were packed in bags made of NanoPack film and commercial film were stored at the same holding temperature for 14 days and then transferred to an ambient temperature for 4 days.

The results have shown that NanoPack film extends the shelf life of cherries by two days. Only 33% of the cherries packaged in commercial film were saleable, compared to the 73% of NanoPack's. This two-day increase in shelf life corresponds to an added value of 40% increase in saleability.

For bread and baked products, the results were even more dramatic, doubling the shelf life of some baked goods, without any preservatives added, in comparison to those packed in conventional plastics packaging.

"We are experimenting with a wide range of products - fresh produce, breads and pastries, as well as dairy and meat proteins. This means we must identify the best combination and concentration of essential oils as well as the most appropriate packaging format for each," said Elisa Valderrama García from the NanoPack scientific team.

Feedback from several consumer studies, undertaken as part of the project, shows considerable acceptance of the idea of extending shelf-life and maintaining quality through slowing down microbial growth using nanotechnologies.

The three-year development is now entering its final year. An important feature of the project is the goal of having a viable nanotechnology-based flexible film for commercialisation by the end of 2019. The project is funded by the EU Horizon 2020 scheme to introduce nano-technologies into flexible packaging. More results will be shared in the final conference that will take place in November in Amsterdam, in conjunction with the 2019 AIPIA World Congress.

About NanoPack

NanoPack is an EU-funded project which aims to develop and demonstrate solutions for extending food
shelf life through using novel antimicrobial surfaces applied in active food packaging products.

NanoPack intends to develop, scale up and run pilot lines in operational industrial settings to manufacture and validate antimicrobial polymer films that are commercially feasible and accepted by retailers and consumers alike.

To learn more, visit NanoPack at www.nanopack.eu or follow NanoPack on Twitter, and Facebook.

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<thead>
<tr>
<th>Prof Ester Segal</th>
<th>Elisa Valderrama García</th>
<th>Nina McGrath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tel: +972-4-8295071</td>
<td>Tel: (+34)-941-369-263 - ext. 25</td>
<td>Phone: +32-2-506-89-86</td>
</tr>
</tbody>
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