

LEIF SHOWS

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Translated from Danish

Smart gadget extends the life of food in the fridge



(Photo: EcoLoc / PureFize Technologies)

Ultraviolet rays (UV) are known to kill germs and viruses, which many used to clean watches, jewellery, earphones, keys or hearing aids during the Corona pandemic.

Fewer people are probably aware that UV can also remove many of the bacteria that cause food to go bad.

For example, it would be obvious to exploit this positive property in refrigerators to extend the shelf life of food.

In any case, none of the major white goods manufacturers (yet) have UV lamps built into their refrigerators as standard.



(Photo: PureFize Technologies)

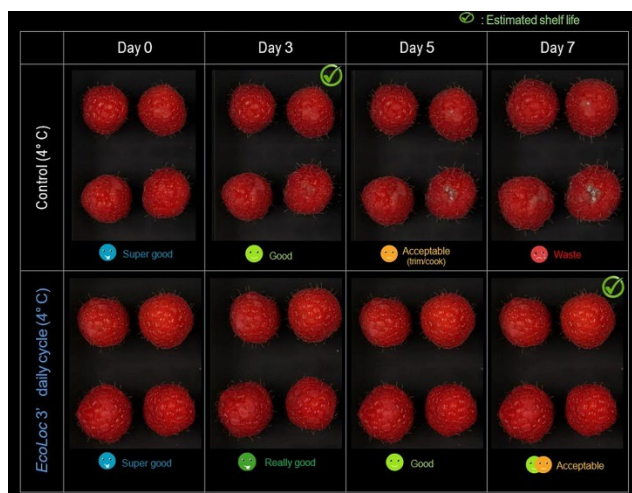
The Swedish company EcoLoc now wants to change that. From here comes a handy little battery-powered UV unit that you can easily place in your refrigerator.

EcoLoc consists of two parts: One is the module itself with the ultraviolet lamp in it. The other is a transparent food container with a bracket on top where you place the UV module.

Since EcoLoc is Swedish, it hardly comes as a surprise that the system's lid is compatible with IKEA's family of 365+ boxes for storing food.

According to EcoLoc, the new system should be able to extend the life of tomatoes in a refrigerator by five days, bread by 22 and blueberries by a full 28 days.

At the same time, the bacteria on the surface of the food should disappear. In laboratory tests, this applies to dangerous intestinal bacteria and those that cause Legionnaires' disease - pneumonia.



The effectiveness of the EcoLoc device has been tested, among other things, by comparing the shelf life of raspberries in a refrigerator. (Photo: PureFize Technologies)

At the heart of the EcoLoc innovation is a control chip that researchers from Singapore's Nanyang Technological University have developed together with Sweden's PureFize Technologies.

The chip produces short-wave UV light. It is also called UVC and is said to be the most effective at killing bacteria and viruses.

EcoLoc's system does this completely without the use of toxic mercury, which is otherwise widespread in conventional UVC lamps.

Instead, the chip uses a process that has the absolutely unspeakable name "cathodoluminescence".

In simpler terms, this means that electrons are sent from a zinc-oxide cathode to another cathode. Along the way, the electrons pass through an electric field that accelerates them.

The receiver cathode is coated with a material that emits mostly UVC light when activated by the fast-flying electrons.

In practice, you only need to keep the EcoLoc on for a few minutes when you place the food in the box. A built-in timer automatically turns off the UVC lamp.

If you store delicate foods in your refrigerator, EcoLoc recommends that you repeat the irradiation for a few minutes every day.

A starter kit with one UVC lamp and three brackets for attaching to the food boxes is sold by EcoLoc on its website for 79 euros or approx. kroner.

The actual cleaning process was recently described by Professor Hilmi Volkan Demir from Nanyang Technological University in a scientific report in the professional media “Advanced Optical Materials”.

<https://leifshows.dk/2025/05/04/smart-dims-forlaenger-foedeverers-liv-i-koeleskabet/>