

## Naturally Restore Health Benefits and Improve the Economic Value of Cooking Oils

### *Cooking Oils for Healthier and More Economic Cooking*

Easily digestible and absorbable fats of refined vegetable oils are one of the main dietary factors behind overweight, obesity and other associated pathologic conditions. Raw plant oils, which are always rich in carotenoids, have a lower digestion rate, reduced calorie absorption and are more economic to cook with than refined industrial bleached oils.

### Technology

L-tug is a patented technology for controlled reintroduction of carotenoids into refined plant oils to naturally improve their health value. This process results in an increase in the size of the lipid droplets not only in the cooking oils but also in the food being cooked. This reduces the digestion rate of all fats, hence lipid calorie absorption, of the whole cooked food. In addition, carotenoids in the cooking oil also preserve thermo-sensitive vitamins and micronutrients, which would typically be destroyed in the cooking process.

The economic benefit of reintroducing carotenoids is that the oil thermoconductivity is accelerated, thus reducing time, fuel, and cost of the cooking process and make it more sustainable.

This technology does not involve any chemical modifications of the oil lipids, and only involves controlled re-introduction of carotenoids, which are naturally present in all raw plant oils but wholly depleted in their industrial refined and bleached derivatives.

### Applications and Regulatory Considerations

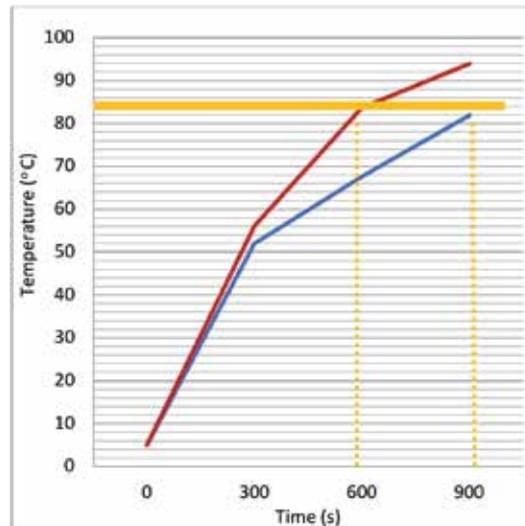
Carotenoids:

- are safe for humans, animals, plants, soil and water
- are fully biodegradable
- are thermo-resistant, retaining their properties in baking, frying, grilling or boiling,
- do not affect the taste and essential physical properties of the cooked food
- can be used and applied in any already existing cooking oils or fats

Lycotec is now looking for industrial partners to bring to the market naturally restored healthier, more economic and sustainable use of cooking oils.

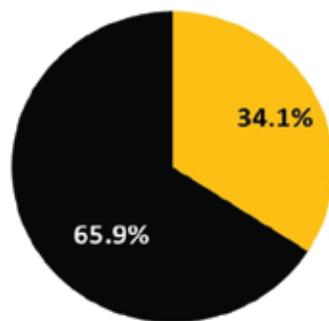
## L-tug Accelerates Cooking Time

Time to cook chicken breast with L-tug oil (red) and control oil (blue)

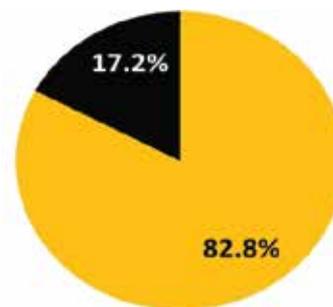


## L-tug Reduces Heat Decomposition of Thermosensitive Vitamins

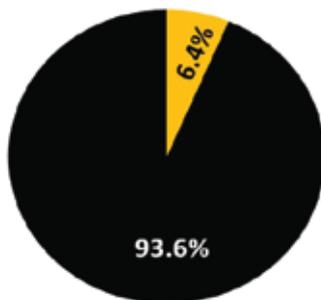
Percentage of remaining vitamin D3, top charts, and vitamin B12, bottom charts, in cooked fish - yellow field



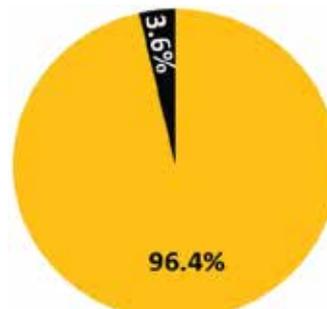
Cooked in control oil



Cooked in L-tug oil



Cooked in control oil



Cooked in L-tug oil

For more information and enquiries please contact: [info@lycotec.com](mailto:info@lycotec.com)  
Lycotec Ltd, St John's Innovation Park, Cowley Road, Cambridge CB4 1XQ  
Phone: +44 (0)7921 363740 | Website: [www.lycotec.com](http://www.lycotec.com)