

**Synthetic anti-oxidants are now passé. Say hello to OxiKan R Plus, the revolutionary natural anti-oxidant**



Everyone loves to eat good, fresh food. We also wish that food remains naturally fresh for many days. But as time passes, it is inevitable that the quality of food starts deteriorating. This affects not only the taste, aroma and texture of food; but also causes serious health risks and wastage of food.

One of the major reasons for the deterioration of food is the auto-oxidation of lipids by which free radicals are produced. Oxidation of lipids is a common, undesirable chemical change which impacts flavour, aroma, texture and nutritional quality.

**What are anti-oxidants?**

Anti-oxidants are substances that prolong the shelf life of food by delaying the oxidation process.

**Popular Anti-oxidants**

Natural	Synthetic
Rosemary	TBHQ
Natural Tocopherol	Synthetic Tocopherol
Sage	BHT
Oregano	BHA
	Ascorbic Acid

The concept of shelf life is an area of clear contrasts. At the consumer level, there is interest in the convenience of longer shelf life and cutting down of food waste on one hand, while there is demand for natural formulations and fresher products on the other. Shelf life enhancement is, therefore, a balancing act of sorts. There are a number of anti-oxidants available in the market – synthetic ones being the most commonly used. However, recent studies question the safety of using synthetic anti-oxidants, with research clearly pointing to the fact that these can be detrimental to human health. This has led to a rapid change in preferences, with consumers increasingly choosing natural products over synthetic ones. Some of the synthetic anti-oxidants have also been banned in many countries owing to health concerns.

Globally, there is increasing consumer awareness of the detrimental effects of synthetic anti-oxidants. This has fuelled the demand for natural anti-oxidants for shelf life extension.

### **Kancor – a never-ending journey of perfection**

Kancor aims to help people make more informed choices; to use more natural products by making them more user friendly and increasing the efficacy of products, keeping pace with evolving customer needs.

### **How does natural anti-oxidant OxiKan work?**

OxiKan® is Kancor's range of natural anti-oxidant solutions derived from the finest rosemary. These products offer a way to extend shelf life naturally, without resorting to any artificial or synthetic means. Rosemary mainly contains three kinds of anti-oxidant molecules – carnosic acid, carnosol and rosmarinic acid that inhibit the oxidation of other molecules by getting oxidized themselves. This helps in extending the shelf life of the end application by fighting rancidity in oils and fats, and stabilising natural colours.

**OxiKan R Plus – A safe and natural alternative to Synthetic antioxidants**

OxiKan R Plus is an enriched extract of selective anti-oxidant molecules from rosemary. This variant of OxiKan has a superior application efficacy. Extensive application studies on OxiKan range were conducted on various food matrices.

**Comparative study of shelf life enhancement of cooked, ground pork patties using OxiKan R Plus and Ascorbic acid (OxiKan R Plus Vs. Ascorbic acid)**

**Objective:** To compare the impact of OxiKan R Plus and Ascorbic acid in the shelf life of cooked, ground pork patties.

**Method:** TBARS (Thiobarbituric Acid Reactive Substances) Study

Thiobarbituric Acid Reactive Substances or TBARS analysis is the most common method used to test lipid oxidation in meat. Lipid oxidation in meat produces malonaldehyde, which on reacting with TBA generates a fluorescence substance. This fluorescence substance is quantified and taken as a measure for lipid oxidation level. The lesser the production of malonaldehyde, the higher will be the shelf life.

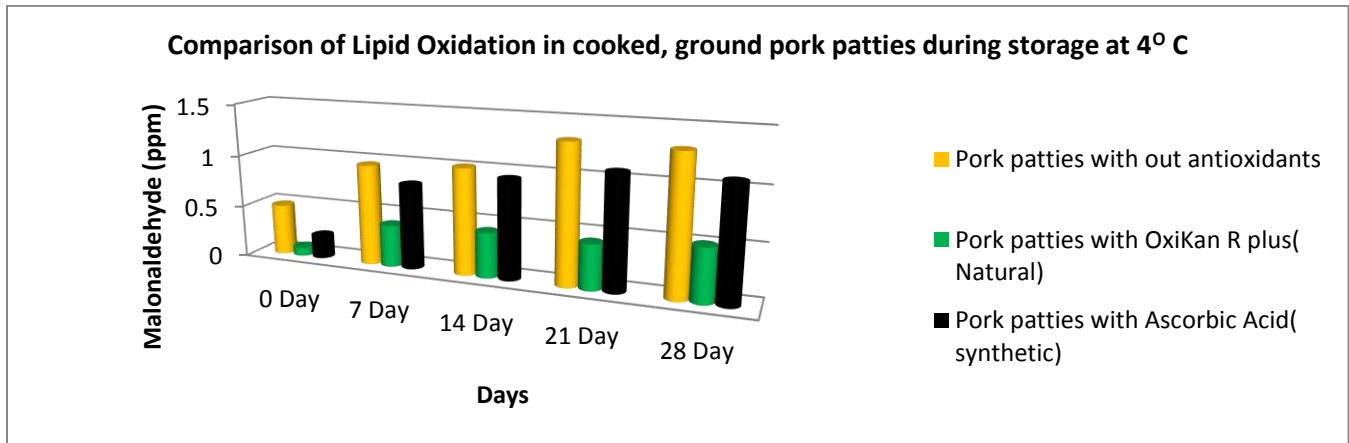
**DOSAGE**

Anti-oxidants	Dosage ppm
Ascorbic acid (Synthetic)	Equivalent to 500 ppm of Ascorbic acid
OxiKan R Plus (Natural)*	Equivalent to 22.4 ppm of Carnosic acid

\*Enriched extract of selective anti-oxidant molecules from rosemary. OxiKan R Plus with 2.8% CA at dosage of 0.08 % is equal to 22.4 ppm of Carnosic acid.

**RESULT**

Comparison of Lipid Oxidation in cooked, ground pork patties during storage at 4° C		Malonaldehyde (ppm)				
Sample ID	0 Day	7 Day	14 Day	21 Day	28 Day	
Pork patties without anti-oxidants	0.49	0.963	1.014	1.32	1.306	
Pork patties with Ascorbic acid (synthetic)	0.22	0.81	0.94	1.08	1.08	
Pork patties with OxiKan R Plus (natural)	0.08	0.4	0.43	0.43	0.51	



**Inference**

From the study, it is evident that malonaldehyde content, which is the qualitative tracer for oxidation, is very high in the control sample without anti-oxidants. Pork patties with Ascorbic acid shows malonaldehyde at similar levels as that in the control sample, which clearly indicates its ineffectiveness in controlling oxidation. It is evident from this study that OxiKan R Plus has been very effective in controlling oxidation as compared to Ascorbic acid.

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