



BIO-OXYGEN EUROPE

Air Sterilisation | Air Purification | Odour Control

Bio-Oxygen Air Sterilisation Solutions for Food Production

Contamination during food manufacturing is a primary concern to all Food Producers. Airborne microbiology such as bacteria and mould can lead to product spoilage, recalls and, at worst, prosecution. Therefore Bio-Oxygen Europe are providing Performance Guaranteed results to ensure manufacturers worldwide reduce the possibility of contamination.

Bio-Oxygen is a unique oxygen based air sterilisation system developed to remove unwanted airborne and surface micro-organisms in manufacturing and storage areas. We have been solving problems worldwide with our unique technology for over 37 years.

Bio-Oxygen minimises the risks from airborne contamination by eliminating infectious pathogens (e.g. Salmonella, Listeria, E. coli) and toxigenic pathogens (e.g. Staphylococcus aureus and clostridia) and spoilage microorganisms (e.g. yeast, moulds, pseudomonad and lactic acid bacteria).

Odour is also treated and removed from the inside or exhaust air of the facility, in compliance with regulatory standards.

Bio-Oxygen is sustainable, healthy, compact and low maintenance, continually sterilising the air, improving air quality and reducing cleaning time. As Bio-Oxygen is natural and safe, staff can continue to work whilst it is cleaning unlike ozone or fogging, which can be dangerous for human health if levels are too high.



FRESH FRUIT & VEGETABLES

Ethylene gas speeds up the ripening process of fruit and vegetables. Bio-Oxygen can regulate the Ethylene gas build up in an enclosed cool room. Oxygen clusters oxidise the Ethylene gas on contact within 15 seconds. With virtually no Ethylene gas in the cool room, the ripening process is retard and produce such as bananas, tomatoes, avocados, peaches, mangoes, pears etc. are literally kept in a suspended animation for weeks and months.

Oxygen clusters also kill bacteria, fungus, yeast, mould, mildew, spores, viruses, protozoa and other organisms that help prevent the produce from rotting. As airborne micro-organisms are removed even bruised, cut, squashed or damaged fruit does not rot.

BREAD & FLOUR

Pathogens such as E. coli and Listeria lead to serious health implications and product recalls in flour. Bio-Oxygen can prevent airborne pathogens contaminating the flour during production and in the manufacture of products using flour, such as bread, pasta, ready meals, cakes etc.

FRESH MEAT

Meat held in cold room storage can last 4 months longer using the Bio-Oxygen process. Not only that we provide a Performance Guarantee to ensure we remove unwanted microbiology or pathogens.

In Meat Processing, Bio-Oxygen provides odour control as well as bacteria abatement. Airborne micro-organisms responsible for pungent meat smells can be completely removed.

In chicken processing, chemicals scrubbers are traditionally used to deal with the odour and bacteria created in the broiler process. Bio-Oxygen can replace the scrubbers to naturally treat the odour and airborne bacteria. Scrubbers are expensive to run and maintain and unsustainable using large quantities of water and chemicals. In processes like broiling the Environment Agency will want an effective Odour Strategy Plan which Bio-Oxygen Europe can provide.



**Bio-Oxygen can
prolong the shelf
life of fresh meat
by four months**

Case Study - Los Altos Cheese

Artisan Mexican Cheese 100% natural ingredients

Mould & Bacteria Reduction

American Cheese Manufacturer, Los Altos, installed Bio-Oxygen as they were experiencing problems with mould formation on cheese in their packing rooms.

Before and after swab tests showed a 99% reduction in mould and bacteria. They were delighted with the results.

After 9 years the Bio-Oxygen system is still operating perfectly at Los Altos.

"The levels of bacteria and fungus have diminished by 98-99% and the air we breathe feels cleaner and purer"

**Los Altos Food Products Inc.
USA**



CHEESE

The starter culture containing bacteria is important in creating wonderful artisan cheeses and yeasts contribute to the maturing process. However at certain stages it is vital to remove unwanted airborne contamination such as pathogens and spoilage microorganisms such as yeast and moulds. These microbiology can spoil the end product either before it has been dispatched or even lead to product recalls from suppliers. Regulatory compliance and food standards must also be adhered to, so prevention of contaminants is paramount.

Bio-Oxygen removes Salmonella, Listeria, E. coli, Staphylococcus aureus, Clostridia, yeast, moulds & pseudomonad. 99% of unwanted airborne contaminants and 90% of surface contaminants are destroyed.

Does Bio-Oxygen affect the cheese making process?

Bio-Oxygen ensures that unwanted contamination is removed with little adverse affect on your processes. The levels of starter culture in the milk stage are high so the interior of the cheese will continue to react and develop as required. The surface of the cheese in the forms may be affected

by a reduction of yeast from the Bio-Oxygen process in the curd stage. The yeast and penicillin levels can always be increased to compensate at production stage or the cheeses can be sprayed with additional yeast in the ripening room.

Which areas of production would benefit from Bio-Oxygen?

The initial production facility and packing rooms have seen the greatest improvement with the introduction of the Bio-Oxygen system. Pathogens and unwanted microbiology are removed improving the production and the final product.

CURED MEAT & SALAMI

Similar to cheese Bio-Oxygen can prevent unwanted pathogens and microbiology such as mould spoiling the meat mix in production, prior to fermentation. In storage the process will also prevent over growth of mould before delivery.

STORAGE & DISTRIBUTION

The Bio-Oxygen process prevents tainting of food with other food odours and flavours. Different foods can be mix in holding room without any problem. Therefore no need to build separate cool rooms for different types of food.

Case Study - Red Lea Chickens

Bacteria Reduction

Red Lea have been producing chicken in Australia for over 60 years.

They installed Bio-Oxygen to reduce bacteria and sterilise their slaughter and poultry meat storage areas.

Before and after swab tests showed a **96.9%** reduction in airborne bacteria and a **90%** reduction on surfaces.



Bio-Oxygen is sustainable, healthy, compact and low maintenance

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