

Freshline® modified atmosphere packaging



Modified atmosphere packaging (MAP) is a technique for packaging food in which the earth's normal breathable atmosphere has been modified in some way. MAP mainly involves the use of three gases—carbon dioxide, nitrogen and oxygen, although other gases are being considered for some applications. Products are packed in a single gas or a combination of these three gases, depending on the physical and chemical properties of the food.

Adding value to food

In today's busy world and the rise of dual-income families, consumers are shopping less and demanding the convenience of fresh, healthy food with limited prep time and limited use of preservatives. And the widespread acceptance of supermarket chains has led to a highly competitive trading environment, forcing quality up and operational costs down. For the food industry, these social, economic and business changes have fostered the use of modified atmosphere packaging (MAP), which can provide many benefits to both the consumer and the food processor.

Once fresh or processed foods like fruit, vegetables or meats are harvested, bacteria continues to function using the available carbohydrate, protein, fat and nutrients in the food. This leads to the degradation of the food, which can include undesirable color changes, loss of flavor and poor texture. By using lowered temperatures in addition to MAP, this highly effective technique can help to extend shelf-life, minimize waste, and increase distribution. In addition, MAP can enhance the food's presentation and quality, adding more value by enabling the product to look and taste better for longer.

Shelf life extension

Depending on the product, food deteriorates at a much slower rate using MAP techniques, and shelf life can be extended by 50% to 500%. This means that product can stay on the shelves longer and is available to be purchased by more people. And if there is a greater chance that a product will be sold, there is less chance of it being thrown away, which leads to waste minimization. Even with today's sophisticated supply chain and inventory management systems, it is still not possible to accurately predict a supermarket's daily throughput. So having a greater product shelf life can also enable a store to order more efficiently and reduce waste.

Quality

There are many quality advantages for both the retailer and the consumer in having food that deteriorates at a much slower rate on its journey from production area to store, and then onward to the domestic kitchen, refrigerator or freezer. The taste, texture, color and feel of the product can be preserved. In some cases, the use of MAP means that artificial preservatives are no longer required to achieve a reasonable shelf life. And, in a world which is becoming increasingly "green," there is a lot of value in eliminating as many additives as possible.

Visual appeal is another component of quality. MAP products cannot just be wrapped in cling film. Instead, they are usually encased in a tray, which lends itself to a more attractive package design. This can attract more consumer attention in what can be a sea of product on the supermarket shelf or case.

Increased distribution possibilities

Because of an extended product shelf life, increased distribution is an area in which the introduction of MAP is more than just “another benefit.” For companies with the right product, the potential to increase the range of delivery can produce exciting changes and open the door to a global market.

Why Air Products?

Since modified atmosphere techniques are evolving, Air Products can help implement MAP in your food operation in the most efficient manner possible. Air Products can provide you with extensive technical and consultative services to help you make the very important decision of choosing the optimum gas mixture for your application. In addition, Air Products offers a full range of gases through a national supply network. And, we have the ability to help you expand as your needs continue to evolve and grow.



Ask Air Products . . . and expect more.

Whether your packaging, cooling, chilling or freezing applications include bakery goods, fruit and vegetables, poultry, meats, ready meals or anything in-between, Air Products' Freshline solutions offer you the high-purity gases and equipment, the international supply capability, and—most important—the unmatched industry experience and technical support to help you succeed just about anywhere in the world. We can help you improve your productivity, lower your costs, maximize your returns, and, as a result, help make you more competitive in a very competitive market.

For more information on Freshline modified atmosphere packaging, or any of our Freshline offerings, call Air Products today to speak with a food industry expert, or visit us at the website below.

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