

FRESH FOOD THANKS TO MODIFIED ATMOSPHERE PACKAGING

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N₂

EXPOSURE TO OXYGEN (O₂) IS ONE OF THE REASONS WHY VITAMINS CONTAINED IN FRUITS AND VEGETABLES ARE LOST AFTER HARVEST. NITROGEN (N₂) IS ABLE TO MINIMIZE THIS VITAMIN LOSS DURING STORAGE AND TRANSPORT. THIS CAN BE PRODUCED ON SITE USING A GENERATOR AND BE INTRODUCED INTO THE PACKAGING AS PART OF THE MAP PROCESS (MODIFIED ATMOSPHERE PACKAGING) IN ORDER TO DISPLACE THE O₂ CONTAINED IN THE AIR. THE FOOD HAS A LONGER SHELF LIFE, WITHOUT ANY PRESERVATIVES.

Modified atmosphere packaging offers fruit and vegetable growers the opportunity to ensure optimal quality and freshness of their goods. For this purpose, the washed and cut vegetables or fruit are sealed in an artificial atmosphere in packaging machines, e.g. tubular bag or thermoforming machines. During the procedure, the protective gas is introduced into the packaging via a lance, which completely displaces the existing oxygen.

Shielding gas prevents oxidation

At the end, the individual packages are closed and separated. Each product is now in a sealed, airtight individual package (e.g. in a tray or bag) filled with the packing gas and is ready for transport. In this way, the protective gas prevents oxidation, which leads to rancidity and the loss of nutrients, especially vitamins. Likewise, the growth of oxygen-dependent microorganisms, such as bacteria and germs, as well as mold is suppressed and thus the development of microbial spoilage processes is prevented.

Browning is prevented

In addition, the brown discoloration of the goods, which is caused by enzymatic reactions, is prevented. Nitrogen is a natural component of the air and ensures that the natural properties of agricultural products such as

taste, texture, smell or color are retained over a longer period of time. By using the natural and odorless packaging gas N₂, the products stay fresh longer and reach the end customer in an optimal condition.

The nitrogen required for the packaging machines can be produced on site with a nitrogen generator from INMATEC in Germany. For this purpose, air from the environment is pressed into two adsorption containers filled with a carbon molecular sieve, which adsorbs the oxygen and carbon dioxide molecules contained in the air. The generator thus produces N₂ with a food-grade purity of 99.5% in the desired quantity.



Independence from external gas supply

On-site N₂ generation makes the operations independent of an external gas supply and, thanks to the latest technology, ensures very low generation costs. In addition, the environmentally friendly technology reduces CO₂ emissions and thus protects the climate and environment.

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