Tony - Refrigeration with evaporative cooling

Tony is based on the principle of evaporating cooling without electricity and refrigerates food that should not be stored in the refrigerator.
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Project Information (EN)

Background

Tony is born from an experimental and scientific approach to the material clay and meant for the correct storage of selected foods. It creates an ideal storage environment for foods that on one hand a fridge is too cold for and that on the other spoil more quickly at room temperature. Some fruit and vegetables are sensitive to cold and lose their flavor if stored in temperatures that are too low. The lower temperatures also inhibit post-ripening processes. Other fruits and vegetables just need to be stored gently. Foods that spoil because of incorrect storage make up the majority of avoidable food waste. With Tony selected fruits and vegetables stay fresh longer than they would in the refrigerator or on the counter.

Design and Construction

Fruits and vegetables should generally be stored separately from each other. Tony is made up of a number of rectangular clay containers of different sizes that can be stacked on top of each other. Thus giving each group of produce its own place. Intensive experiments with different types of clay and clay mixtures have shown that a Raku clay and sand mixture absorbs water from the water tank best and produces an optimal cooling effect. Each clay container consists of a water tank, a food container and a lid. This has the advantage that each clay complex works independently and with it's own water supply. The surface of the outer wall is subtractively machined to increase the surface area. This allows more water to evaporate and the inside temperature to drop faster and further. As strong sunlight or standing next to a heat source can increase the internal temperature, a wooden construction allows the clay cooler to be placed flexibly in a convenient location in the household.

Sustainability and Circularity

Neither the extraction of the raw materials, the production of Tony or the use of the product release any substances harmful to the environment. The Raku clay used in production is sourced from the Westerwald region of Germany, avoiding long transport routes and reducing CO2 emissions. Ceramics are made by firing a mixture of inorganic substances and are environmental friendly. After production, the clay coolers are fired at the lowest possible temperature of 1000 °C in order to consume a minimum of energy. The Tony clay cooler is an object for daily use. Therefore, it is built sturdily to last a long time. However, if the cooler is no longer intact or functional, clay coolers can be recycled by grinding them into fireclay. The fireclay can then be incorporated into clay bodies for the manufacture of new coolers.

Image List

Filename	Caption	Credit
lea_1695904646.jpg	Stuffed Tony with separated food	Lea Lorenz

The images above are included in the ZIP under `/images`.