

Dextrose and fructose from grapes



In spring 2012, the first crystallisation plant that will produce grape and fruit sugar from grape juice was successfully commissioned for Naturalia Ingredients s.r.l. at Mazara del Vallo, Sicily. The plant, which was set up in close collaboration between BMA and Naturalia Ingredients, is the first plant in the world to produce grape sugar (DMH, dextrose monohydrate) and fruit sugar (XF, crystalline fructose) from grape juice on an industrial scale.

The idea to produce sugar from grapes originally came from the plant owners, Cantine Foraci s.r.l., who are also shareholders of Naturalia Ingredients. The technology and machinery to fully implement the crystallisation plant, which forms the complete plant's centre piece, was supplied by BMA.

The grape juice enters the system in its natural state and is cleaned in the customer's own upstream process, before passing to the two separate BMA crystallisation plants as concentrated glucose and fructose juice. After further conditioning with a suitable crystal seed, the two fractions crystallise into grape sugar and fruit sugar in BMA

OVC crystallisers. Depending on the crystallised sugar syrup, crystal yields of up to 55 % (CPY) can be achieved. In special BMA centrifugals, the produced crystal mass is then separated from the mother syrup, and the crystals are washed. The final steps of the process are drying and packaging. For both crystallisation processes, BMA provided know-how and technology as part of a separate engineering service.

BMA supplies crystallisation plants for dextrose monohydrate, crystalline fructose and polyols. They consist of vertical stainless-steel cooling crystallisers with useful volumes of up to 380 m³ as standard. The crystallisers are completely manufactured at BMA's Braunschweig workshop and can be shipped as complete units with a diameter of 4.5 metres. This provides for extremely short assembly times, once the crystallisers have been installed on prepared foundations.

Pre-order trials that were performed in BMA's pilot plant supplied important information about the product, and served as a valuable basis for a successful scale-up for the actual plant.

Karl Kremsa

DMH and

XF crystallisers

