

Press release

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Südzucker wheat starch factory in Zeitz to start operations

Südzucker AG, Mannheim, has successfully wrapped up construction of a wheat starch factory at its combined site in Zeitz, Sachsen-Anhalt, Germany. After one-and-a-half years of construction, the plant will be commissioned after completion of final testing. The factory will convert wheat from the neighboring regions to glucose syrups for the food and chemical industries and has generated about 100 new jobs. The plant's production capacity is 140,000 tonnes of glucose syrup per year. Bran for the animal feed industry and the plant protein gluten will be refined in addition to the primary product, glucose syrup. Gluten is a key raw material also used for the bakery industry and fish farming. The project was completed on schedule and within the budgeted 125 million euro.

Integrated into the Zeitz location

Südzucker already operates a sugar factory at the Zeitz location. The company's subsidiary CropEnergies AG runs a bioethanol, a rectified spirits and a CO₂ liquefaction plant at the same site. Integrating the new factory into this existing production environment generated additional synergies. The most important of these include common use of the energy infrastructure, which results in high capacity utilization of the existing fluidized-bed boiler. The sugar factory, which uses thermal processes and generates excess electric power, also complements the wheat starch factory, which requires little heat but a substantial amount of electricity.

Another advantage is that starch process byproducts can be converted to ethanol in the bioethanol plants. By using these byproducts, the plant not only reduces its investment requirements, but also its energy consumption. Overall, the wheat starch plant completely utilizes the input raw materials and converts them to high value products. The same applies to all of the other plants operating at the site, which is of course in line with Südzucker's sustainability strategy; namely, to completely utilize all agricultural raw materials.

Glucose production and use

Another reason for deciding to build the plant at the Zeitz location aside from the aforementioned synergies is that the region surrounding Zeitz is a traditional wheat growing area that boasts especially protein-rich wheat. The wheat is transported by truck to large intermediate storage silos, and from there to a flour mill. Here the wheat is first scoured, which entails removing impurities such as sand, pebbles and husks, before it is prepared for grinding. The wheat is

subsequently ground in roller mills to make flour. The main byproduct here is bran, which is pelletized and stored and subsequently sold to the animal feed industry. After grinding, the wet wheat milling process serves to separate the flour into two major components, starch and gluten, thereby separating unwanted residuals. This entails mixing the flour with water and subsequently decanting it into the two main components. A significant share of the byproducts is already separated at this stage by purely mechanical means. Further downstream in the process, the starch and gluten are washed with water and screened to remove impurities. Additional equipment is used to treat the water and subsequently recycle it in the process, which drastically reduces water consumption. The gluten extracted in this process is subsequently dried in ring dryers. BENE0, a Südzucker subsidiary, then markets the protein around the world as Vital Wheat Gluten.

The other important byproduct of the wet wheat milling process is the washed starch. Starch consists mainly of long glucose chains, also known as grape sugar. Figuratively speaking, the next step in the production of glucose syrup simulates the processes of baking and human digestion. Heat and enzymes are used to break down the long glucose chains. The degree of breakdown of the glucose chains depends on how long they are processed. The process is specifically controlled to produce glucose syrups that have varying properties.

The byproduct of the wet wheat milling process is converted to ethanol in the bioethanol plants.

Application and marketing

One example of an important product made from glucose syrups is candies. Here glucose syrup is not used primarily for sweetening, but rather to prevent sugar from crystallizing. It is very important for determining the properties of the end product. Other applications include producing baked goods, beverages and ice cream.

Further key milestones aside from commissioning the plant, equipment and processes include incorporating organizational processes and certifying them, a prerequisite to marketing and selling the products. The aforementioned processes were thus certified to comply with food and animal feed safety requirements. Tests were also conducted to prove that the various byproducts comply with the high sustainability standards that CropEnergies adheres to when it produces bioethanol.

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About the Südzucker Group

Südzucker, with its sugar, special products, CropEnergies and fruit segments, is one of the leading companies in the food industry. In the traditional sugar business, the group is the world market leader, with 29 sugar factories and two refineries, extending from France in the west via Belgium, Germany and Austria, through to Poland, the Czech Republic, Slovakia, Romania, Hungary, Bosnia and Moldova in the east. The special products segment, consisting of the functional ingredients for food and animal feed (BENEO), chilled/frozen products (Freiberger), portion packs (PortionPack Europe) and starch divisions, is an important growth driver. The CropEnergies segment covers the bioethanol activities in Germany, Belgium, France and the UK. In the fruit segment, the group operates internationally, is the world market leader for fruit preparations and is a leading supplier of fruit juice concentrates in Europe.

In 2014/15, the group employed about 18,500 persons and generated revenues of EUR 6.8 billion.