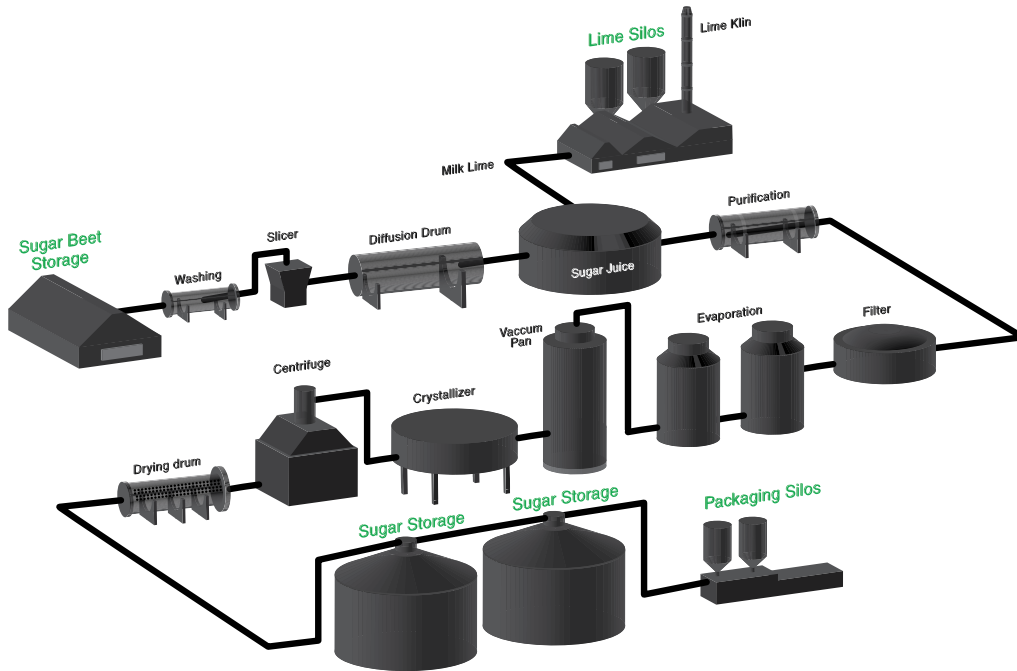


# Food & Beverage



## Sugar Production – Sugar Beet



## Sugar Beet Storage

**Application:** Sugar beets are stored in warehouses prior to being transferred to processing.

**Challenges:** The material stored in the warehouse feeds the entire production process. Plentiful supply and accurate measurement are needed to ensure continuous production and monitoring inventory in a large warehouse cannot be achieved with a single-point measurement device. The BinMaster 3DLevelScanner MVL multiple-scanner system can employ two to 32 3DLevelScanners in a single structure. Strategically located to adequately span the material surface, each scanner measures multiple points within the structure. Then, the 3DVision software synchronizes the measurement data from all of the scanners to provide a volume estimate. BinMaster's 3DLevelScanner can be used in many types and sizes of storage silos, bins and warehouses where devices like radar cannot achieve the same level of accuracy and reliability. Optional 3D visualization of the material surface can assist in managing filling and emptying points. 3D movies generated by the software can demonstrate the movement of stored content to better understand material allocation inside the warehouse.



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## Lime Silos

**Application:** Hydrated lime is stored in silos before being sent to the kiln and into the production process.

**Challenges:** Hydrated lime is used to help removed impurities in the sugar. Continuous monitoring of lime inside the silo is challenging since lime is extremely dusty and has a tendency to adhere to the silo walls and form buildup. Achieving accurate, real-time volume measurement of the lime stored in the silos is critical for ensuring continuous production and a quality product. BinMaster's 3DLevelScanner performs well in dusty and moist conditions, and also offers an optional 3D visualization tool to allow the end user to detect buildup as it occurs.

## Sugar Storage Silos

**Application:** After wet sugar is dried, screened and cooled it is sent to large bulk storage silos or domes, each of which can contain up to 50,000 tons of material. From the storage silos, the sugar is either delivered via trucks or transferred to a packaging silo to be packed in bags.

**Challenges:** Raw sugar is stored in very large silos or domed warehouses which are used to store very large amounts of material. The stickiness of the sugar leads to random topography and material buildup inside the silo or dome. Silo or dome size coupled with the material's challenging properties make it extremely difficult for end users to continuously assess sugar inventory levels. BinMaster's 3DLevelScanner has the ability to work in this harsh environment and profiles the surface of the material in order to measure the amount of sugar inside the silo. The 3DLevelScanner's 3D visualization tool allows end users to view the allocation of material inside the silos in real time, including areas of buildup, facilitating timely maintenance and reducing risks of interruption to the production process and the associated losses of time and money.



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## Packing Silos

**Application:** Sugar is delivered to the packaging silos where it is packed in bags and packages.

**Challenges:** Sugar and sugar dust tend to accumulate, and build up in the silo, so understanding actual material content continuously becomes very difficult. For the packaging line to run efficiently, there must be a continuous supply of material. Sugar's sticky nature challenges level measuring systems which need to operate even if sugar sticks to the device. BinMaster's 3DLevelScanner is capable of working in this harsh environment, measuring and mapping the material to provide inventory information. The 3DLevelScanner's 3D visualization tool provides a real-time 3D display of the sugar's distribution inside the silos, which indicates areas of buildup. Therefore, maintenance can be scheduled in a timely manner, reducing downtime and interruptions in packaging which could impact delivery schedules and production costs.



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