



HUMULUS LUPULUS

AND OTHER BITTER TRUTHS

The heart of hop processing

In the middle of the Hallertau region, flanked by Dürnbuch Forest to the west and the A93 motorway to the east, lies the village of Sankt Johann in the municipality of Train. 500 souls live there – and it is also there that the heart of hop processing beats. There, on an area covering 116,000 square metres (equal to 16 football pitches!), stands the world's biggest and most modern hop pelletisation plant. Production runs from the end of September to June. Last season, 60 hop varieties from 16 hop-growing regions, making a total of half a million hop bales and weighing 30,000 metric tons, were processed into pellets. This is equivalent to 71 per cent of Germany's crop volume, including imported hops, and 25 per cent of the 2018 world crop volume.

The hop cone itself is perfectly formed. It provides effective protection for the lupulin glands that are hidden between its leaves. Although some brewers like using cone hops, their use does entail certain disadvantages. Cones are difficult to dose and require additional storage space. They have a low density and it is virtually impossible to protect them from oxidation and degradation. That is why 97 per cent of all cones are processed into pellets. Hop pellets are homogeneous with regard to alpha acid and oil content, have a higher density, are easy to portion and to pack for protection, and can be kept longer in cold storage.

Hop processing has not been done for very long. Although hop oil distillation has been practised for 170 years now, the practice of converting cones into pellets is a recent innovation that followed the introduction of hop powder. In 1968, a hop-refining company was founded in Sankt Johann under the name of "Dr. A. Müller und Co.". Their first product, the above-mentioned hop powder, was marketed as "Hopfix". However, this powder was not only difficult to dose; it was hard to dissolve and entailed high losses in the brew house. Pelletisation provided the remedy.

Today, the company "Hopfenveredlung St. Johann GmbH", of which Hopfenverwertungsgenossenschaft (HVG) and Joh. Barth & Sohn own 40 and 60 per cent respectively, has five mighty production lines, three for producing standard (Type 90) hop pellets and two for producing enriched products. Incidentally, cone hops that are used for producing extract are also pelletised first.

The process from cone to pellet takes up to ten hours and begins with the bales of cone hops being broken. They are mechanically opened, separated and homogenised. Then, any stones, lumps of clay, sticks or left-over pieces of wire are removed by a magnet and a solids separator. Finally, although already pre-dried by the hop farmer, the cones are dried down to a water content of eight per cent before being ground and mixed. About 40 bales go into one mixer. Following laboratory analysis of alpha and oil content, the ground cones go to the pellet press. Warmed during processing, the pellets are left to cool down to 20° Celsius to protect the sensitive compounds. Depending on the variety, the pellets then land in one of the many silos – awaiting their date with the tubular bag machine in which they are portioned and packed. St. Johann offers a unique service. Customers can have package units portioned according to the desired alpha content. Allowing for product variations, this requires variable packaging sizes – which is no small effort. In response to growing demand from craft brewers, the hop processing plant has invested in small-scale packaging equipment. As a result, St. Johann can portion packaging units in any size from 500 g to 2 kg to 20 kg, right up to drums containing 90 and 140 kg.



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Cryosauna for more flavour: in the enriched pellet production process, the cones are dried and then taken to the cold chamber. There, they are ground and sifted at minus 35 degrees Celsius. The low temperature hardens the lupulin and prevents the membranes of the lupulin glands from bursting. Nothing sticks together or clogs or oils up. The fine material (lupulin) is easily separated from the coarse material (hop chaff) and can be remixed to achieve the desired alpha and oil content. It's very cold, but effective.

150 employees working in a three-shift system take care of the logistics, processing, invoicing, equipment and maintenance. In early August, the silent season begins at the Sankt Johann plant. The people and the machines take a break. Before that, the production staff completely take the plant apart, washing and servicing it in the process. The oils and resins from the hops leave a big mark. No motor, pipe or screw is left untouched. It is not until September that the staff gradually bring the plant back to life. At the end of the month the bale breaker, drier, grinder, mixer and pellet press all rattle into operation again. The heart of hop processing starts beating again at its familiar rate.