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The impact of extreme weather events on hops in Czechia

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Extreme weather events are harming the production of hops worldwide. Czechia specializes in the cultivation of a traditional genetic group of very soft aromatic hops, also called Saaz hops. Statistical data suggest that especially aroma hops are vulnerable to extremes. Recorded observations show an increase in air temperature, more frequent occurrence of droughts, hot waves, storms and hails. Hops generally react to water stress by reducing yields. Over the past 17 years, harvest losses have been increasingly frequent due to summer heat and drought. The quality of hop cones mainly depends on the alpha acids content of the hop cone. High summer temperatures and drought inhibited the accumulation of alpha acids. For example, in an extremely hot and dry summer in 2015 the content of alpha decreased by 46 %. The concentration of hop cultivation in a comparatively small region in Czechia makes it more vulnerable than if the crop were grown in more areas with different climates. Greater use of irrigation has the potential to reduce hop yield fluctuations. Simulations using future climate predict a more frequent extreme weather events in the future. Since other hops cultivation areas are also affected by this, climate change can distort the hop market. In the US, many leading breweries signed a climate declaration to call attention to the specific risks and opportunities of climate change on the beer industry.
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