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New Findings with the Use of Hop Products in the Sugar Industry.

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Abstract:

During the 1996 beet campaign hop-base extract was again used in several factories in full plant scale to reduce bacterial activity in sugar beet extraction. By dosing hop-base extract periodically at mid tower position in amounts of 10 g per ton of beet, the lactic acid content of raw juice was reduced to 400 mg/kg raw juice, without severe influence on the fermentation in the upper part of the tower. The dry substance of pressed pulp was increased to 30% by a residual fermentation. Rapid dosing with high actual concentration, as well known from formalin, is also advantageous for hop extract. Existing devices in Austrian factories must be improved accordingly in the future.

In an aerobic trough diffuser with rather low presswater temperatures it was necessary to use 25 g hop-base extract per ton of beet to achieve a similar residual lactic acid concentration. Under these temperature conditions only formalin was able to inhibit bacterial activity completely. In contrast to the reduction of lactic acid, especially nitrite formation could be avoided, and acetic acid formation which is typical of aerobic extraction equipment was largely reduced. In case of acetic acid and nitrite, base extract was more effective than a combination of a dithiocarbamate product, an iodophore product and chloride of lime.

Investigations on the fate of hop extracts showed that values in the products sugar, molasses and pulp are undetectable or uncritical, even under shock-dosing conditions.

The complete text is available in English and in German.