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Non-sugar driven, automated milk of lime flow control.

Amalgamated Sugar's Nampa Idaho facility has historically only had manual control of milk of lime (MOL) flow to the purification process. This prevented the factory from efficiently responding to changes in juice flow or quality, and also led to widespread overliming as there was no real-time visibility on usage. Beginning in crop year 2023, the Nampa facility commissioned new control logic to their MOL dosing system which calculates MOL flow based on mass flow of non-sugars coming in with the raw juice. Non-sugar loading is determined by lab-calculated raw juice AP every hour and fed into the automation. MOL mass flow is calculated with online density measurements on MOL and on sweetwater. The MOL flow splits to pre, cold, and hot limers are user controlled based on lab calculated invert destruction, and optimum preliner alkalinity. With this new control, Nampa reduced their CaO/NS loading by 20%. This effectively eliminated previous factory bottlenecks due to limekiln throughput limitations, while simultaneously improving limekiln health and stability.