ENGL3170

Project 1 – Podcast Script

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A process of secondary fermentation resulting in beer bottles *exploding* became the topic of research for microbiologist Doctor Paul Rowley and his team of undergraduate researchers at the University of Idaho.

Hello, my name is Todd Carter, here to talk about the research being done by Dr. Rowley and his team and how they are using good yeasts to combat contamination from bad yeasts in the process of brewing beer.

When fermenting beer, there is a wide range of different kinds of yeasts that all can contribute to the process.

Not all of these contributing yeasts have a positive influence, however.

A specific type of yeasts known as “diastatic yeasts” are able to consume the sugars that are found in fermented beer.

This means the beer that has already been packaged and bottled undergoes a secondary fermentation process, causing gas release and expansion inside the bottles, resulting in over-carbonation, off-putting flavors, and even bottles exploding while in storage after production.

This has been a difficult problem to defeat in the past, requiring PCR genetic breakdowns of the yeasts being used to detect the genes that might be causing the secondary fermentation.

And the only way to defeat the diastatic yeast is to then pasteurize the beer after completion.

Neither option is viable for small time brewers and both are unreliable for major brewers.

So Dr. Rowley and his team instead have taken the approach of introducing a type of yeast that produces a toxin that is harmful only to diastatic yeasts, which saw a reduction of 95% of diastatic activity.

This provides small brewers a viable alternate option to pasteurization, as well as giving major brewing companies another way to reduce their chances of losing product to contamination.

The details of their research can be found in their published paper, “Inhibition of diastatic yeasts by Saccharmyces killer toxins to prevent hyperattenuation during brewing,” which can be found through the university research pages.

Thank you for your time.

Links, just in case:

<https://www.uidaho.edu/news/news-articles/news-releases/2024/103024-explodingbeer>

<https://journals.asm.org/doi/10.1128/aem.01072-24>

<https://blogs.cornell.edu/beerblog/2020/05/25/the-mysterious-case-of-exploding-beer-a-tale-of-diastatic-yeasts/>

<https://www.kingarthurbaking.com/blog/2022/03/14/difference-between-diastatic-malt-non-diastatic-malt-barley-malt-syrup>

<https://www.craftbrewingbusiness.com/featured/beer-spoilage-prevention-what-is-saccharomyces-cerevisiae-var-diastaticus-and-why-should-you-care/>

The soundcloud:

<https://soundcloud.com/tcarter-380693549/5-16-2025-engl3170/s-EPq79lnht8k?si=d5bcc262884e47a7a28a2bf86a7ab454&utm_source=clipboard&utm_medium=text&utm_campaign=social_sharing>