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Mr. Malt® No-Low Zyme-FAQs

Q. What is Mr. Malt No-Low Zyme?
A. Mr. Malt® has repacked valuable brewing enzymes from an industry leading manufacturer to make these solutions available to brewers on a smaller scale. Home brew, brewing trials or for craft and smaller independent brewers. The enzyme is a transglucosidase enzyme which converts fermentable sugars into non-fermentable sugars through isomerization, reducing the amount available for fermentation and alcohol production whilst building body back into the beer without the “worty sweet” flavour of some no-alcohol beers. The enzyme allows for the **EASI method** of low and no alcohol production **Enzyme Addition Sugar Isomerization**. Although recipe development is required, mash protocols are the same as with standard strength beer production but with an addition of No-Low Zyme at mashing in.

Q. Why should I add low-alcohol or alcohol-free beers to my range?
A. No and low beers are significantly outperforming the rest of the market, with a growth rate almost double that of other segments. This trend is likely to continue. The EASI approach offers the potential to create new, flavorful, high quality low and no alcohol beers.

Q. I don't like using chemicals/aids. Isn't there a more natural way to produce low and no alcohol beers?
A. Most things are possible with beer, but there is always a compromise! Natural is a challenging term with many grey areas. Enzymes are both natural and high-tech as they are created by living organisms but are powered by clever biotechnology, much like modern beer! The EASI approach creates unique compounds called IMO (isomalto-oligosaccharides), which are non-fermentable and contribute to the body and mouthfeel, producing a more stable low and no alcohol beer. With optimized use, the RDF (Real Degree of Fermentation) can be reduced to below 40%. IMOs appear naturally in foods like sourdough, miso & sake!

Q. How does No-Low Zyme work?
A. No-Low Zyme is added to the wort during mashing, and as the normal mash reactions occur, the fermentable sugars are converted into a non-fermentable form. These sugars are called IMOs, isomalto-oligosaccharides, which have low relative sweetness, a low glycemic index, and are considered prebiotics. Panose is the main IMO created during mashing with the EASI approach.

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Q. How should I dose Mr. Malt® No-Low Zyme to achieve the desired result?
A. To achieve a real attenuation of 40%, the maximum dosage of 500 g per 100 kg of grist should be applied, and a minimum mash stand of 60-minute mash should be performed. Ensuring mixing and even distribution through the mash is desirable for best results.

Q. Which mashing protocol should I use?
A. For low-alcohol beers, higher mashing temperatures are normally used to promote limit dextrins. Since the EASI approach depends on the malt's B-amylase to create maltose, lower mashing temperatures should be used. Single infusion at 63-66ºC is recommended. This means that a well-modified malt with low gelatinization temperatures will be preferred.

Q. Can it be used for other beers?
A. Yes, why not! There might be opportunities to get creative and create new "full-bodied beers." For example, a beer with the flavor of an Imperial Stout but with "standard ABV." Experimentation is part for the fun of brewing, perhaps Mr. Malt® No-Low Zyme can be used to create whole new styles such as “Table Grape Ale” 2.8-3.8% ABV, we believe Mr. Malt® No-Low Zyme will offer creative brewers many options to make delicious beers.

Q. Does the activity continue? How is the enzyme denatured/deactivated?
A. The EASI approach is designed to work at typical mashing temperatures of 63-68ºC. The enzyme begins to denature at 70ºC and denatures rapidly at >80ºC. As with malt enzymes, there will be no activity after boiling, and the sugar spectrum will be fixed. No-Low Zyme is considered a brewing aid/processing aid and is not typically labelled.

Q. Do I need to use a maltose-negative yeast?
A. Not necessarily. Thanks to the reduced fermentability achieved using the EASI approach, it is possible to inoculate a standard yeast strain and achieve excellent results for Low and No alcohol styles.

Q. What about microbial and food safety?
A. As with all beer production, hygiene control is a critical component, and the brewer must follow regulations to produce safe beverages for the consumer. For any low-

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alcohol beer production, hygiene is critical, as the EASI approach produces non-fermentable sugars there is a lower risk of over attenuation compared to methods that leave fermentable sugars in the beer. The analytical tools available to the brewer vary enormously, but standard tests that examine heat storage to force any potential deterioration should be available to everyone. External labs may prove a valuable resource.

Q. Is Mr. Malt® No-Low Zyme a GMO?
A. Mr. Malt No Low Zyme is not a GMO, does not contain GMOs, and is classified as a processing/brewing aid. It is produced by fermentation of microorganisms optimized through modern biotechnologies that are not present in the final product.

Q. Is Mr. Malt® No-Low Zyme expensive?
A. Mr. Malt No Low Zyme allows brewers to produce beers without costly investments in equipment. Since raw material costs are generally much lower, the cost of the enzyme can be easily integrated into production costs to produce profitable beers. In many countries, the savings from taxation can also be significant.

Q. Who can I contact if I have questions?
A. Our technical staff!
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