

S9-3

Distiller's Yeast Discovery for Industrial Application

Tae Wan Kim^{1,2}, B. H. Ahn¹, H. R. Kim¹, J. E. Lee¹, and J. H. Kim¹

¹Korea Food Research Institute (KFRI) Alcoholic Beverage Research Team

²International Centre for Brewing & Distilling (ICBD), Heriot-Watt University, Scotland

There are many yeast strains have been discovered for industrial usage in global scale. In the point of view for the alcoholic fermentation performance and producing alcoholic beverage products, recently many countries have known about the importance of microorganisms as a valuable resource. Discovered with well performed yeasts have potential industrial application in diverse ways such as foods, beverages, cosmetics, pharmaceutical functions, and so on.

In Korea, the yeast research has not been sufficiently performed especially for distilled spirits industry. As a result, not so little manufacturers use exotic yeasts from overseas even included the expensive royalties. Besides of those, to produce distilled spirits, many manufacturers do not use specialized yeast for distilled spirits.

Distiller's characterized yeasts such as whisky, brandy, vodka, Japanese shochu and awamori, are all well-known industrialized. For decades, the distillers, except us, have selected, developed, and practised yeasts in accordance with distilled spirits characters.

This study is about selection and industrial application of yeasts for the Korean pot distilled spirits. Finally 7 yeast strains were selected among over 1,000 yeasts from the traditional Nuruks, through the essential related tests based on brewing and distilling science. The selected yeasts show the appropriate characteristics of distilled spirits. The result of this study could help our distilled spirits industry be activated and stand independent from the exotic microbes.

References

- [1] GM Walker Current challenges and future opportunities for distillers yeast: Discussion forum, *University of Abertay Dundee*, 2012.
- [2] GM Walker, T Bringhurst, and J Brosnan The ideal distiller's yeast? Yeast Research Group, *University of Abertay Dundee and Scotch Whisky Research Institute*, 2011.
- [3] Kim Cool Distillation - Sensory Differences of Distillate through Vacuum Distillation at Low Temperature, ICBD (The International Centre for Brewing and Distilling) and SWRI (Scotch Whisky Research Institute), 6-47, 2003.
- [4] V Vidgren and J Londesborough 125th Anniversary Review: Yeast Flocculation and Sedimentation in Brewing, *Journal of Institute of Brewing and distilling*, 117(4), 475-487, 2011.

Keywords: distiller's yeast, distillery yeast, distilled spirits, spirits, yeast, yeast strains