

## Batch and continuous fermentation of succinic acid from wood hydrolysate by *Mannheimia succiniciproducens* MBEL55E

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In order to reduce the medium cost, production of succinic acid by anaerobic batch and continuous cultures of *Mannheimia succiniciproducens* MBEL55E using wood hydrolysate and various nitrogen sources were studied. The hydrolysate medium was treated with NaOH before sterilization to reduce the formation of inhibitory compounds. *Mannheimia succiniciproducens* MBEL55E utilized xylose as well as glucose in the wood hydrolysate based media as a carbon source for the succinic acid production. Also, the effectiveness of corn steep liquor in cell growth and succinic acid production was similar to those obtained by supplementing expensive yeast extract. When corn steep liquor was supplemented as a complex nitrogen source, the final succinic acid concentration of 9.75 g/L was obtained in batch fermentation of pre-treated wood hydrolysate (containing 15.50 g/L of glucose and 7.63 g/L of xylose), resulting in a succinic acid yield of 50%. Continuous cultures of *Mannheimia succiniciproducens* MBEL55E in the pre-treated wood hydrolysate based medium containing yeast extract resulted in a succinic acid yield of 55%. High succinic acid productivity (3.19 g/L/h) was obtained and it was 2.8 times higher than that obtained by batch fermentation.

### References

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