Continuous cultures of Mannheimia succiniciproducens MBEL55E for the production of succinic acid from various carbon substrates

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Mannheimia succiniciproducens MBEL55E isolated from bovine rumen is able to produce a large amount of succinic acid in a medium containing glucose, peptone and yeast extract [1]. In order to reduce the medium cost, whey and corn steep liquor (CSL) were used as substrates for the production of succinic acid by M. succiniciproducens MBEL55E [2]. Anaerobic batch cultures of M. succiniciproducens MBEL55E in a whey-based medium containing CSL resulted in the production of succinic acid with the yield of 71% and productivity of 1.18 g/L/h, which are similar to those obtained in a whey-based medium containing yeast extract (72% and 1.21 g/L/h). Anaerobic continuous culture of M. succiniciproducens MBEL55E in a whey-based medium containing CSL resulted in a succinic acid yield of 69% and a succinic acid productivity of as high as 3.90 g/L/h. These results show that succinic acid can be produced efficiently and economically by M. succiniciproducens MBEL55E from whey and CSL.

Acknowledgement

This work was supported by the Korea Energy Management Corporation and by the Brain Korea 21 project from the Ministry of Education.

References

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