

Culture Conditions of Immobilized *Enterobacter cloacae* YJ-1 for Hydrogen Production from Fruit Wastewaters

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Abstract

The hydrogen production using immobilized cell was conducted using fruit wastewaters at various culture conditions. Three kinds of fruit wastewaters, that is, watermelon, pear and melon, were used. Sodium alginate was used as immobilization material. Among them, concentration of reducing sugar which was one of the main components in fruit was highest at watermelon wastewater, and also hydrogen production was highest as 2319.2 mL/L in it. Although hydrogen production was not much changed according to sodium alginate concentration, its production was the most at 3%(w/v). As bead size as small, hydrogen production was higher. With inspection of bead Interior, it was conformed that the cell grew well in bead. When the amino acids that can be used as enzyme for metabolite were added, hydrogen productivities were improved, tyrosine was the most effective among them. and its hydrogen production increased to 1.1 times than control test.

References

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