

**BAB V**  
**KESIMPULAN DAN SARAN**



## BAB V

### KESIMPULAN DAN SARAN

#### V.1. Kesimpulan

Dari hasil penelitian yang telah dilakukan dapat diambil kesimpulan bahwa *pretreatment* terhadap substrat tongkol jagung dan volume nutrisi yang ditambahkan pada substrat mempengaruhi pertumbuhan dari *Trichoderma reesei* dan aktivitas *crude* enzim selulase hasil fermentasi. Untuk volume nutrisi yang sama, *pretreatment* secara fisika (*steam explosion*) menghasilkan jumlah spora *T.reesei* dan aktivitas enzim selulase tertinggi. Sedangkan untuk *pretreatment* yang sama, penambahan nutrisi sebanyak 15 mL menghasilkan jumlah spora *T.reesei* dan aktivitas enzim selulase tertinggi. Pengukuran aktivitas enzim dengan metode CMC-ase memberikan hasil yang lebih tinggi dibandingkan dengan metode FP-ase. *T.reesei* yang diinokulasikan pada 5 gram tongkol jagung yang telah mengalami *pretreatment* fisika, dapat memproduksi enzim selulase dengan aktivitas enzim yang tertinggi yaitu 0,3611 IU/mL (metode CMC-ase), setelah fermentasi berlangsung selama 48 jam dengan penambahan nutrisi sebanyak 15 mL.

#### V.2. Saran

1. Untuk penelitian selanjutnya disarankan agar menggunakan campuran *Trichoderma reesei* dan *Aspergillus niger* sehingga dapat dihasilkan ketiga komponen enzim selulase yaitu selobiohidrolase (CBH), endoglukanase (EG),  $\beta$ -glukosidase (BGL).
2. Untuk menentukan aktivitas enzim selulase, khususnya komponen selobiose dapat digunakan metode Herr (p-nitrophenyl- $\beta$ -Dglukopiranoside).

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