

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Kesimpulan yang diperoleh dari percobaan penggunaan bij asam jawa tanpa kulit sebagai koagulan alami untuk limbah tekstil sintetik zat warna dispersi adalah:

1. Variabel pH dan dosis koagulan mempengaruhi secara signifikan terhadap %-penurunan kadar COD yang dihasilkan pada limbah tekstil sintetik zat warna C.I. *Disperse Red 60* dan C.I. *Disperse Yellow 54*.
2. Kondisi terbaik untuk zat warna C.I. *Disperse Red 60* adalah pada pH 7 dan dosis koagulan 5 g/L dengan %-penurunan kadar COD sekitar 12 %, sedangkan untuk zat warna C.I. *Disperse Yellow 54* adalah pada pH 9 dan dosis koagulan 5 g/L dengan %-penurunan kadar COD sekitar 16 %.
3. Hasil optimasi dengan bantuan *software Design Expert* untuk zat warna C.I. *Disperse Red 60* adalah pada pH 6,87 dan dosis koagulan 5 g/L dengan penurunan 13,4316 %, sedangkan untuk C.I. *Disperse Yellow 54* adalah pada pH 7,45 dan dosis koagulan 5 g/L dengan %-penurunan kadar COD sekitar 14,3424 %.
4. Kondisi terbaik pH dan dosis koagulan dipengaruhi oleh jenis zat warna yang terkandung pada sampel, hal ini dilihat dari hasil percobaan penurunan kadar COD antara zat warna dispersi dengan zat warna reaktif.

5.2 Saran

Berdasarkan hasil penelitian yang diperoleh, terdapat beberapa saran yang dapat diberikan kepada peneliti selanjutnya, yaitu:

1. Perlu adanya observasi lebih lanjut mengenai koagulan alami yang lebih tepat untuk menghasilkan %-penurunan kadar COD yang lebih memuaskan untuk limbah tekstil sintetik zat warna dispersi.
2. Dapat digunakan pengukuran COD dengan *open method* untuk penelitian selanjutnya dikarenakan limbah zat warna tekstil sebenarnya memiliki rentang yang cukup luas.
3. Perlu adanya observasi ulang mengenai keefektifan dari koagulan biji asam tanpa kulit atau dengan kulit.

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