

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

1. Pati biji durian belum dapat digunakan sebagai koagulan pembantu yang efektif karena tidak memberikan hasil yang signifikan terhadap nilai *%Removal* zat warna kongo merah maupun terhadap jumlah *sludge* yang terbentuk.
2. Terjadi peningkatan *%Removal* seiring dengan meningkatnya nilai derajat keasaman (pH) limbah dari rentang 3 hingga 7, kemudian terjadi penurunan *%Removal* hingga pH 10. Jumlah *sludge* yang terbentuk akan semakin kecil seiring dengan peningkatan nilai pH. Kondisi koagulasi terbaik diperoleh pada pH 7 dengan tambahan koagulan alum sebanyak 30 mg/L. Kondisi tersebut memberikan nilai *%Removal* sebesar 91,477% dan jumlah *sludge* sebesar 13,67 mL/L.
3. Dosis koagulan pembantu pati biji durian kurang dapat membantu peningkatan *%Removal*. Hal ini dikarenakan tidak adanya perubahan *%Removal* yang signifikan seiring dengan bertambahnya dosis koagulan pembantu. Selain itu semakin banyak dosis koagulan pembantu yang ditambahkan, jumlah *sludge* yang terbentuk juga akan meningkat akibat dari mekanisme restabilisasi partikel.

5.2 Saran

1. Perlu dilakukan validasi terhadap ketersediaan limbah buah yang akan digunakan dan kemudahan dalam memperoleh limbah buah tersebut.
2. Perlu dilakukan validasi terhadap kemampuan pati biji durian sebagai koagulan pembantu dalam peningkatan *%Removal* zat warna dan penurunan jumlah *sludge*.
3. Perlu dilakukan validasi terhadap zat warna yang akan digunakan sebagai model percobaan proses koagulasi.
4. Perlu dilakukan percobaan kationisasi pati agar dapat dipastikan pati bermuatan positif ketika ditambahkan ke dalam limbah sintetik.

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