

BAB V

KESIMPULAN DAN SARAN

V.1. Kesimpulan

Dari penelitian yang telah dilakukan dapat disimpulkan sebagai berikut:

1. Kualitas minyak jelantah dapat ditingkatkan dengan cara adsorpsi menggunakan karbon aktif dan bentonit. Karbon aktif terbaik diperoleh dengan cara karbonisasi yang dilanjutkan dengan aktivasi menggunakan asam, sedangkan bentonite terbaik diperoleh dari aktivasi asam dan pemanasan suhu 300 dan 400°C selama 2 jam.
2. Struktur permukaan AC-2 memiliki banyak pori-pori yang terbentuk dengan ukuran yang besar, serta terdapat gugus fungsi hidroksil (-OH) pada puncak (3630 cm^{-1}) dan peregangan (3387 cm^{-1}) serta gugus fungsi P=OOH pada puncak (1105 cm^{-1})
3. Struktur permukaan B4-200 dan B2-300 sama-sama memiliki lempung yang mengembang dan terdapat jarak antar lapisan pada struktur bentonit (basal spacing), serta didominasi dengan struktur montmorillonite yang terdapat pada panjang gelombang $3620\text{-}3624\text{ cm}^{-1}$
4. Terlihat bahwa tidak terdapat perbedaan gugus-gugus fungsi antara adsorben AC2, B23 secara individu dengan granul yang merupakan campuran AC2 dan B23 yaitu mengandung gugus hidroksil (OH) dan CO.
5. Komposit granul karbon aktif-bentonit memberikan kualitas minyak jelantah hasil adsorpsi yang lebih baik dibandingkan dengan penggunaan adsorben secara individu dengan komposit granul terbaik adalah AC2-B23 memberikan kualitas minyak jelantah hasil adsorpsi yang terbaik ditinjau dari parameter asam lemak bebas, bilangan peroksida dan bilangan iodin.
6. Komposit granul karbon aktif-bentonit belum dapat dihasilkan dengan

metode dispersi seperti yang diharapkan, namun masih bisa dibuat dengan cara granulasi secara konvensional.

7. Kualitas minyak jelantah hasil adsorpsi masih belum memberikan hasil baik untuk parameter bau karena masih tercium bau agak tengik.

V.2 Saran

Berdasarkan hasil penelitian, dapat menyarankan untuk melakukan variasi komposisi granul lainnya sehingga dapat dibuat granul dengan cara yang lebih mudah. Variabel-variabel lainnya selama proses adsorpsi juga dapat divariasikan untuk mendapatkan kondisi operasi yang maksimum sehingga parameter kualitas minyak goreng jelantah hasil adsorpsi dapat memenuhi ketentuan SNI 3741 2013 (Syarat Mutu Minyak Goreng).

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