V.
KESIMPULAN DAN SARAN

5.1. Kesimpulan

1. Perbedaan jenis enkapsulan berpengaruh nyata terhadap kadar air, warna (*hue*), dan pH, namun tidak berpengaruh nyata terhadap higroskopisitas, total fenol, aktivitas antioksidan, dan warna (*lightness, redness, yellowness,* dan *chroma*).
2. Perbedaan konsentrasi enkapsulan yang tersarang ke dalam jenis enkapsulan berpengaruh nyata terhadap higroskopisitas, total fenol, aktivitas antioksidan, warna, dan pH, namun tidak berpengaruh terhadap kadar air.
   a. Peningkatan konsentrasi enkapsulan akan menurunkan kadar air (HPMC sebesar 4,98-4,64% dan *gum arabic* sebesar 5,60-5,50%).
   b. Peningkatan konsentrasi enkapsulan akan menurunkan higroskopisitas (HPMC sebesar 24,03-21,75% dan *gum arabic* sebesar 25,46-21,18%).
   c. Peningkatan konsentrasi enkapsulan akan menurunkan total fenol (HPMC sebesar 4412,8676-3279,0441mg GAE/kg bubuk buah dan *gum arabic* sebesar 4774,6324-3617,6471mg GAE/kg bubuk buah).
   d. Peningkatan konsentrasi enkapsulan akan menurunkan aktivitas antioksidan (HPMC sebesar 81,69-35,33% dan *gum arabic* sebesar 86,38-36,90%).
   e. Peningkatan konsentrasi enkapsulan akan meningkatkan *lightness*, *redness*, dan *chroma* serta menurunkan *yellowness* dan *hue*.
   f. Peningkatan konsentrasi enkapsulan HPMC akan meningkatkan pH (5,79-6,01) sedangkan *gum arabic* menurunkan pH (5,38-5,25).

5.2. Saran

Berikut merupakan beberapa saran yang dapat dipertimbangkan:

1. Jenis dan konsentrasi enkapsulan yang sebaiknya digunakan adalah HPMC 2,5% karena memiliki aktivitas antioksidan tertinggi dan kadar air yang lebih rendah dibandingkan penggunaan *gum arabic*.
2. Perlu dilakukan penelitian lebih lanjut mengenai aplikasi bubuk buah naga merah terenkapsulasi ke dalam produk pangan.
3. Perlu dilakukan pengujian *control release* untuk mengetahui jumlah senyawa bioaktif dan lama waktu yang diperlukan oleh bubuk buah naga merah terenkapsulasi dalam melepaskan senyawa bioaktif.

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