

Lampiran 5. Contoh penghitungan dimensi kemasan hasil rancangan.

Diketahui :

Buah salak manonjaya

diameter mayor = $2a = 5.505 \sim 6 \text{ cm} \rightarrow a = 3.0 \text{ cm}$

diameter minor = $2b = 4.994 \sim 5 \text{ cm} \rightarrow a = 2.5 \text{ cm}$

tinggi = $h = 6.401 \sim 6 \text{ cm} \rightarrow 2c = \frac{1}{2} h = 3.0 \text{ cm}$

berat rata-rata = 78.165 g

Penghitungan :

- Kapasitas kemasan = $20 \text{ kg} = 20,000 \text{ g}$
- Jumlah buah dalam kemasan (N) = $20,000/78.165 = 255.869 \sim 256$ buah salak
- Dari standar yang diinformasikan Peleg (1985) untuk N = 256 buah maka $K_A = 8, K_B = 8, K_C = 8$ (Lampiran 1)
- $V_k = \pi (2/3) (3.0)(2.5)(3.0) (8)(8)(8) = 0.024 \text{ m}^3$
- $\Delta x = 0.82a = 0.82 (3.0) = 2.5 \text{ cm}$
 $\Delta y = 0.82b = 0.82 (2.5) = 2 \text{ cm}$
 $\Delta z = 0.82c = 0.82 (3.0) = 2.5 \text{ cm}$
- $A = (1.41 K_A + 0.59)a = [(1.41) (8) + 0.59] (3.0) = 35.61 \text{ cm} \sim 36 \text{ cm}$
 $B = (1.41 K_B + 0.59)b = [(1.41) (8) + 0.59] (2.5) = 29.675 \text{ cm} \sim 30 \text{ cm}$
 $C = (1.41 K_C + 0.59)c = [(1.41) (8) + 0.59] (3.0) = 35.61 \text{ cm} \sim 36 \text{ cm}$
- $V = ABC = (36) (30) (36) = 20736 \text{ cm}^3 = 0.038 \text{ m}^3$
- $S = V_k / V = 0.024 / 0.038 = 0.641 \sim 64 \%$