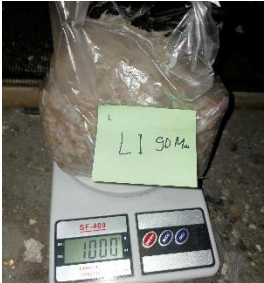


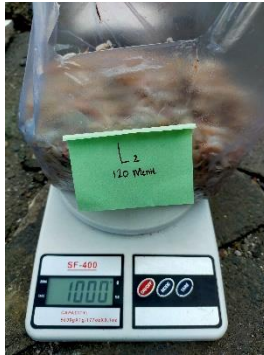


LAMPIRAN

Lampiran 1. Hasil Eksperimen Respon Warna RGB

Ekperimen	Respon Warna RGB
<p>Eksperimen ke 1:</p> 	<p>Replikasi 1:</p>  <p>Replikasi 2:</p> 

Eksperimen ke 2:



Replikasi 1:



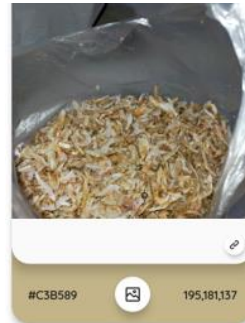
Replikasi 2:



Eksperimen ke 3:



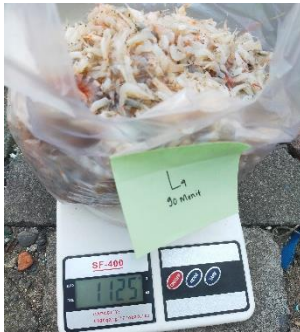
Replikasi 1:



Replikasi 2:



Eksperimen 4:



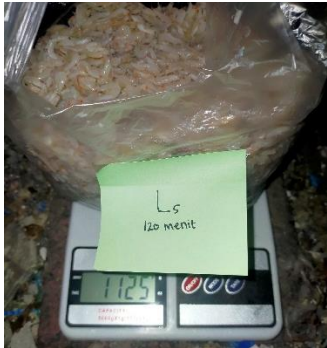
Replikasi 1:



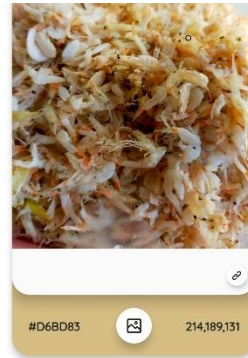
Replikasi 2:



Eksperimen ke 5:



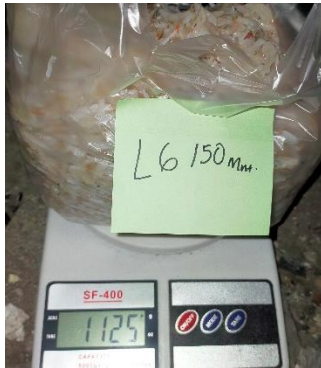
Replikasi 1:



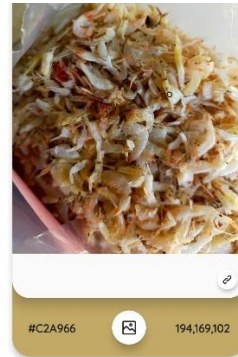
Replikasi 2:



Eksperimen ke 6:



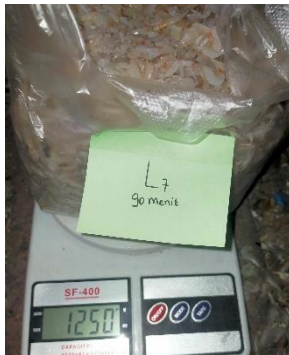
Replikasi 1:



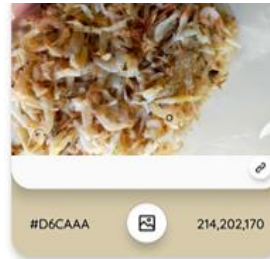
Replikasi 2:



Eksperimen ke 7:



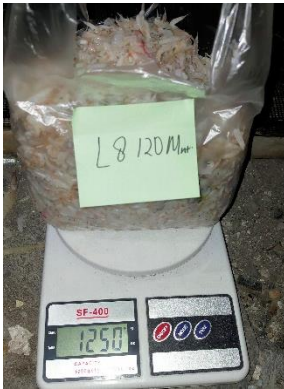
Replikasi 1



Replikasi 2:



Eksperimen ke 8:



Replikasi 1:



Replikasi 2:



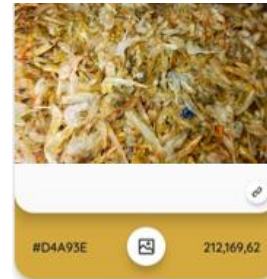
Ekspirimen ke 9:



Replikasi 1:



Replikasi 2:



Lampiran 2. Perhitungan RGB Respon Warna

Replikasi 1 :

1. Eksperimen 1 : RGB (170,140,80)

Diket :

$$\text{Red} = 170$$

$$\text{Green} = 140$$

$$\text{Blue} = 80$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (170 \times 65536) + (140 \times 256) + 80$$

$$\text{Decimal} = 11177040$$

2. Eksperimen 2 : RGB (196, 176,94)

Diket :

$$\text{Red} = 196$$

$$\text{Green} = 176$$

$$\text{Blue} = 94$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (196 \times 65536) + (176 \times 256) + 94$$

$$\text{Decimal} = 12890206$$

3. Eksperimen 3 : RGB (195,181,137)

Diket :

$$\text{Red} = 195$$

$$\text{Green} = 181$$

$$\text{Blue} = 137$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (195 \times 65536) + (181 \times 256) + 137$$

$$\text{Decimal} = 12825993$$

4. Eksperimen 4 : RGB (190,164,101)

Diket :

$$\text{Red} = 190$$

$$\text{Green} = 164$$

$$\text{Blue} = 101$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\begin{aligned}\text{Decimal} &= (190 \times 65536) + (164 \times 256) + 101 \\ \text{Decimal} &= 12493925\end{aligned}$$

5. Eksperimen 5 : RGB (214,189,131)

Diket :

$$\begin{aligned}\text{Red} &= 214 \\ \text{Green} &= 189 \\ \text{Blue} &= 131\end{aligned}$$

Jawab:

$$\begin{aligned}\text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (214 \times 65536) + (189 \times 256) + 131 \\ \text{Decimal} &= 14073219\end{aligned}$$

6. Eksperimen 6 : RGB (194, 169,102)

Diket :

$$\begin{aligned}\text{Red} &= 194 \\ \text{Green} &= 169 \\ \text{Blue} &= 102\end{aligned}$$

Jawab:

$$\begin{aligned}\text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (194 \times 65536) + (169 \times 256) + 102 \\ \text{Decimal} &= 12757350\end{aligned}$$

7. Eksperimen 7 : RGB (214, 202,170)

Diket :

$$\begin{aligned}\text{Red} &= 214 \\ \text{Green} &= 202 \\ \text{Blue} &= 170\end{aligned}$$

Jawab:

$$\begin{aligned}\text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (214 \times 65536) + (202 \times 256) + 170 \\ \text{Decimal} &= 14076586\end{aligned}$$

8. Eksperimen 8 : RGB (203, 176, 111)

Diket :

$$\begin{aligned}\text{Red} &= 203 \\ \text{Green} &= 176 \\ \text{Blue} &= 111\end{aligned}$$

Jawab:

$$\begin{aligned} \text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (203 \times 65536) + (176 \times 256) + 111 \\ \text{Decimal} &= 13348975 \end{aligned}$$

9. Eksperimen 9 : RGB (199, 169, 95)

Diket :

$$\begin{aligned} \text{Red} &= 199 \\ \text{Green} &= 169 \\ \text{Blue} &= 95 \end{aligned}$$

Jawab:

$$\begin{aligned} \text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (199 \times 65536) + (169 \times 256) + 95 \\ \text{Decimal} &= 13085023 \end{aligned}$$

Replikasi 2 :

1. Eksperimen 1 : RGB (194,156,79)

Diket :

$$\begin{aligned} \text{Red} &= 194 \\ \text{Green} &= 156 \\ \text{Blue} &= 79 \end{aligned}$$

Jawab:

$$\begin{aligned} \text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (194 \times 65536) + (156 \times 256) + 79 \\ \text{Decimal} &= 12753999 \end{aligned}$$

2. Eksperimen 2 : RGB (212, 178,89)

Diket :

$$\begin{aligned} \text{Red} &= 212 \\ \text{Green} &= 178 \\ \text{Blue} &= 89 \end{aligned}$$

Jawab:

$$\begin{aligned} \text{Decimal} &= (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue} \\ \text{Decimal} &= (212 \times 65536) + (178 \times 256) + 89 \\ \text{Decimal} &= 13939289 \end{aligned}$$

3. Eksperimen 3 : RGB (177,147,73)

Diket :

$$\begin{aligned} \text{Red} &= 177 \\ \text{Green} &= 147 \end{aligned}$$

$$\text{Blue} = 73$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (177 \times 65536) + (147 \times 256) + 73$$

$$\text{Decimal} = 11637577$$

4. Eksperimen 4 : RGB (218,184,82)

Diket :

$$\text{Red} = 218$$

$$\text{Green} = 184$$

$$\text{Blue} = 82$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (218 \times 65536) + (184 \times 256) + 82$$

$$\text{Decimal} = 14334034$$

5. Eksperimen 5 : RGB (175,159,98)

Diket :

$$\text{Red} = 175$$

$$\text{Green} = 159$$

$$\text{Blue} = 98$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (175 \times 65536) + (159 \times 256) + 98$$

$$\text{Decimal} = 11509602$$

6. Eksperimen 6 : RGB (211, 185,76)

Diket :

$$\text{Red} = 211$$

$$\text{Green} = 185$$

$$\text{Blue} = 76$$

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (211 \times 65536) + (185 \times 256) + 76$$

$$\text{Decimal} = 13875532$$

7. Eksperimen 7 : RGB (196, 175,177)

Diket :

$$\text{Red} = 196$$

Green = 175

Blue = 177

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (196 \times 65536) + (175 \times 256) + 177$$

$$\text{Decimal} = 12889973$$

8. Eksperimen 8 : RGB (219, 190, 112)

Diket :

Red = 219

Green = 190

Blue = 112

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (219 \times 65536) + (190 \times 256) + 112$$

$$\text{Decimal} = 14401136$$

9. Eksperimen 9 : RGB (212, 169, 62)

Diket :

Red = 212

Green = 169

Blue = 62

Jawab:

$$\text{Decimal} = (\text{Red} \times 65536) + (\text{Green} \times 256) + \text{Blue}$$

$$\text{Decimal} = (212 \times 65536) + (169 \times 256) + 62$$

$$\text{Decimal} = 13936958$$

Lampiran 3. Perhitungan S/N Ratio Kedua Respon

Perhitungan S/N Ratio menggunakan persamaan 3.3, adalah sebagai berikut:

$$T = \sum_{i=1}^n y_i, Sm = \frac{T^2}{n}$$

$$Ve = \sum_{i=1}^n \frac{(y_i - \bar{y})^2}{n-1} = \frac{(y_1^2 + y_2^2 + \dots + y_n^2) - Sm}{n-1}$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{n} \cdot \frac{(Sm - Ve)}{Ve} \right]$$

➤ Respon Kadar Air

1. Eksperimen 1 :

Diket :

Replikasi 1 = 39,9

Replikasi 2 = 30,6

Jawab:

$$Sm = \frac{(39,9+30,6)^2}{2} = 2485, Ve = \frac{(39,9^2+30,6^2)-2485}{2-1} = 43$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(2485-43)}{43} \right] = 1,451$$

2. Eksperimen 2 :

Diket :

Replikasi 1 = 41,0

Replikasi 2 = 20,6

Jawab:

$$Sm = \frac{(41,0+20,6)^2}{2} = 1897, Ve = \frac{(41,0^2+20,6^2)-1897}{2-1} = 208$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(1897-208)}{208} \right] = 0,608$$

3. Eksperimen 3 :

Diket :

Replikasi 1 = 47,1

Replikasi 2 = 34,1

Jawab:

$$Sm = \frac{(47,1+34,1)^2}{2} = 3297, Ve = \frac{(47,1^2+34,1^2)-3297}{2-1} = 85$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(3297-85)}{85} \right] = 1,279$$

4. Eksperimen 4 :

Diket :

Replikasi 1 = 38,8

Replikasi 2 = 19,0

Jawab:

$$Sm = \frac{(38,8+19,0)^2}{2} = 1647, Ve = \frac{(38,8^2+19,0^2)-1647}{2-1} = 196$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(1647-196)}{196} \right] = 0,575$$

5. Eksperimen 5 :

Diket :

Replikasi 1 = 49,7

Replikasi 2 = 34,9

Jawab:

$$Sm = \frac{(49,7+34,9)^2}{2} = 3580, Ve = \frac{(49,7^2+34,9^2)-3580}{2-1} = 109$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(3580-109)}{109} \right] = 1,203$$

6. Eksperimen 6 :

Diket :

Replikasi 1 = 39,8

Replikasi 2 = 22,0

Jawab:

$$Sm = \frac{(39,8+22,0)^2}{2} = 1908, Ve = \frac{(39,8^2+22,0^2)-1908}{2-1} = 160$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(1908-160)}{160} \right] = 0,739$$

7. Eksperimen 7 :

Diket :

Replikasi 1 = 48,3

Replikasi 2 = 37,9

Jawab:

$$Sm = \frac{(48,3+37,9)^2}{2} = 3719, Ve = \frac{(48,3^2+37,9^2)-3719}{2-1} = 54$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(3719-54)}{54} \right] = 1,530$$

8. Eksperimen 8 :

Diket :

Replikasi 1 = 40,3

Replikasi 2 = 28,2

Jawab:

$$Sm = \frac{(40,3+28,2)^2}{2} = 2345, Ve = \frac{(40,3^2+28,2^2)-2345}{2-1} = 74$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(2345-74)}{74} \right] = 1,186$$

9. Eksperimen 9 :

Diket :

Replikasi 1 = 30,8

Replikasi 2 = 22,6

Jawab:

$$Sm = \frac{(30,8+22,6)^2}{2} = 1424, \text{ Ve} = \frac{(30,8^2+22,6^2)-1424}{2-1} = 34$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(1424-34)}{34} \right] = 1,311$$

➤ **Respon Warna**

1. Eksperimen 1 :

Diket :

Replikasi 1 = 11177040

Replikasi 2 = 12753999

Jawab:

$$Sm = \frac{(11177040+12753999)^2}{2} = 286347313809760$$

$$Ve = \frac{(11177040+12753999)^2-286347313809760}{2-1} = 1243399843841$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(286347313809760-1243399843841)}{1243399843841} \right] = 2,059$$

2. Eksperimen 2 :

Diket :

Replikasi 1 = 12890206

Replikasi 2 = 13939289

Jawab:

$$Sm = \frac{(12890206+13939289)^2}{2} = 359910900977512$$

$$Ve = \frac{(12890206^2+13939289^2)-359910900977512}{2-1} = 550287570445$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(359910900977512-550287570445)}{550287570445} \right] = 2,514$$

3. Eksperimen 3 :

Diket :

Replikasi 1 = 12825993

Replikasi 2 = 11637577

Jawab:

$$Sm = \frac{(12825993+11637577)^2}{2} = 299233128572450$$

$$Ve = \frac{(12825993^2+11637577^2)-299233128572450}{2-1} = 706166294528$$

$$\text{SN ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(299233128572450 - 706166294528)}{706166294528} \right] = 2,325$$

4. Eksperimen 4 :

Diket :

$$\text{Replikasi 1} = 12493925$$

$$\text{Replikasi 2} = 14334034$$

Jawab:

$$S_m = \frac{(12493925 + 14334034)^2}{2} = 359869692052840$$

$$V_e = \frac{(12493925^2 + 14334034^2) - 359869692052840}{2 - 1} = 1693000565941$$

$$\text{SN ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(359869692052840 - 1693000565941)}{1693000565941} \right] = 2,024$$

5. Eksperimen 5 :

Diket :

$$\text{Replikasi 1} = 14073219$$

$$\text{Replikasi 2} = 11509602$$

Jawab:

$$S_m = \frac{(14073219 + 11509602)^2}{2} = 327240365159020$$

$$V_e = \frac{(14073219^2 + 11509602^2) - 327240365159020}{2 - 1} = 3286066061345$$

$$\text{SN ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(327240365159020 - 3286066061345)}{3286066061345} \right] = 1,693$$

6. Eksperimen 6 :

Diket :

$$\text{Replikasi 1} = 12757350$$

$$\text{Replikasi 2} = 13875532$$

Jawab:

$$S_m = \frac{(12757350 + 13875532)^2}{2} = 354655201812962$$

$$V_e = \frac{(12757350^2 + 13875532^2) - 354655201812962}{2 - 1} = 625165492562$$

$$\text{SN ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(354655201812962 - 625165492562)}{625165492562} \right] = 2,452$$

7. Eksperimen 7 :

Diket :

$$\text{Replikasi 1} = 14076586$$

$$\text{Replikasi 2} = 12889973$$

Jawab:

$$Sm = \frac{(14076586+12889973)^2}{2} = 363597652150240$$

$$Ve = \frac{(14076586^2+12889973^2)-363597652150240}{2-1} = 704025205885$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(363597652150240-704025205885)}{704025205885} \right] = 2,411$$

8. Eksperimen 8 :

Diket :

Replikasi 1 = 13348975

Replikasi 2 = 14401136

Jawab:

$$Sm = \frac{(13348975+14401136)^2}{2} = 385034330256160$$

$$Ve = \frac{(13348975^2+14401136^2)-385034330256160}{2-1} = 553521384961$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(385034330256160-553521384961)}{553521384961} \right] = 2,541$$

9. Eksperimen 9 :

Diket :

Replikasi 1 = 13085023

Replikasi 2 = 13936958

Jawab:

$$Sm = \frac{(13085023+13936958)^2}{2} = 365093728582180$$

$$Ve = \frac{(13085023^2+13936958^2)-365093728582180}{2-1} = 362896622113$$

$$SN \text{ ratio} = 10 \log \left[\frac{1}{2} \cdot \frac{(365093728582180-362896622113)}{362896622113} \right] = 2,701$$

Lampiran 4. Perhitungan Normalisasi S/N Ratio setiap Respon

Perhitungan S/N Ratio menggunakan persamaan 3.3, adalah sebagai berikut:

$$x_i^*(j) = \frac{(|x_i(j)-T|) - \min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

Diket :

Nilai target respon kadar air : T = 25

Nilai target respon warna : T = 13810264

➤ Respon Kadar Air

Nilai minimal dan maksimal didapatkan dari perhitungan nilai S/N ratio tiap eksperimen dari respon kadar air yang dikurangi dengan nilai target.

$$\text{Nilai min } (|x_i(j) - T|) = 23,470$$

$$\text{Nilai max } (|x_i(j) - T|) = 24,425$$

1. Eksperimen 1 :

$$\text{Diket : S/N ratio eksperimen 1} = 1,451$$

Jawab :

$$(|x_i(j) - T|) = |1,451 - 25| = 23,549$$

$$x_i^*(j) = \frac{(|x_i(j)-T|) - \min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{23,549 - 23,470}{24,425 - 23,470} = 0,083$$

2. Eksperimen 2 :

$$\text{Diket : S/N ratio eksperimen 2} = 0,608$$

Jawab :

$$(|x_i(j) - T|) = |0,608 - 25| = 24,392$$

$$x_i^*(j) = \frac{(|x_i(j)-T|) - \min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{24,392 - 23,470}{24,425 - 23,470} = 0,965$$

3. Eksperimen 3 :

$$\text{Diket : S/N ratio eksperimen 3} = 1,279$$

Jawab :

$$(|x_i(j) - T|) = |0,608 - 25| = 24,392$$

$$x_i^*(j) = \frac{(|x_i(j)-T|) - \min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{24,392 - 23,470}{24,425 - 23,470} = 0,965$$

4. Eksperimen 4 :

$$\text{Diket : S/N ratio eksperimen 4} = 0,575$$

Jawab :

$$(|x_i(j) - T|) = |0,575 - 25| = 24,425$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{24,425 - 23,470}{24,425 - 23,470} = 1$$

5. Eksperimen 5 :

Diket : S/N ratio eksperimen 5 = 1,203

Jawab :

$$(|x_i(j) - T|) = |1,203 - 25| = 23,797$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{23,797 - 23,470}{24,425 - 23,470} = 0,343$$

6. Eksperimen 6 :

Diket : S/N ratio eksperimen 6 = 0,739

Jawab :

$$(|x_i(j) - T|) = |0,739 - 25| = 24,261$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{24,261 - 23,470}{24,425 - 23,470} = 0,829$$

7. Eksperimen 7 :

Diket : S/N ratio eksperimen 7 = 1,530

Jawab :

$$(|x_i(j) - T|) = |1,530 - 25| = 23,470$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{23,470 - 23,470}{24,425 - 23,470} = 0$$

8. Eksperimen 8 :

Diket : S/N ratio eksperimen 8 = 1,186

Jawab :

$$(|x_i(j) - T|) = |1,186 - 25| = 23,814$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{23,814 - 23,470}{24,425 - 23,470} = 0,360$$

9. Eksperimen 9 :

Diket : S/N ratio eksperimen 9 = 1,311

Jawab :

$$(|x_i(j) - T|) = |1,311 - 25| = 23,689$$
$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{23,689 - 23,470}{24,425 - 23,470} = 0,229$$

➤ **Respon Warna**

Nilai minimal dan maksimal didapatkan dari perhitungan nilai S/N ratio tiap eksperimen dari respon warna yang dikurangi dengan nilai target. Nilai min $(|x_i(j) - T|) = 13810261,299$ dan Nilai max $(|x_i(j) - T|) = 13810262,307$

1. Eksperimen 1 :

Diket : S/N ratio eksperimen 1 = 2,059

Jawab :

$$(|x_i(j) - T|) = |2,059 - 13810264| = 13810261,941$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,941-13810261,299}{13810262,307 - 13810261,299} = 0,636$$

2. Eksperimen 2 :

Diket : S/N ratio eksperimen 2 = 2,514

Jawab :

$$(|x_i(j) - T|) = |2,514 - 13810264| = 13810261,486$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,486-13810261,299}{13810262,307 - 13810261,299} = 0,186$$

3. Eksperimen 3 :

Diket : S/N ratio eksperimen 3 = 2,325

Jawab :

$$(|x_i(j) - T|) = |2,325 - 13810264| = 13810261,675$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,675-13810261,299}{13810262,307- 13810261,299} = 0,373$$

4. Eksperimen 4 :

Diket : S/N ratio eksperimen 4 = 2,024

Jawab :

$$(|x_i(j) - T|) = |2,024 - 13810264| = 13810261,976$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,976-13810261,299}{13810262,307 - 13810261,299} = 0,671$$

5. Eksperimen 5 :

Diket : S/N ratio eksperimen 5 = 1,693

Jawab :

$$(|x_i(j) - T|) = |1,693 - 13810264| = 13810262,307$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810262,307-13810261,299}{13810262,307 - 13810261,299} = 1$$

6. Eksperimen 6 :

Diket : S/N ratio eksperimen 6 = 2,452

Jawab :

$$(|x_i(j) - T|) = |2,452 - 13810264| = 13810261,548$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,548-13810261,299}{13810262,307 - 13810261,299} = 0,247$$

7. Eksperimen 7 :

Diket : S/N ratio eksperimen 7 = 2,411

Jawab :

$$(|x_i(j) - T|) = |2,411 - 13810264| = 13810261,589$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,589-13810261,299}{13810262,307 - 13810261,299} = 0,288$$

8. Eksperimen 8 :

Diket : S/N ratio eksperimen 8 = 2,541

Jawab :

$$(|x_i(j) - T|) = |2,541 - 13810264| = 13810261,459$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)}$$

$$x_i^*(j) = \frac{13810261,459-13810261,299}{13810262,307 - 13810261,299} = 0,159$$

9. Eksperimen 9 :

Diket : S/N ratio eksperimen 9 = 2,701

Jawab :

$$(|x_i(j) - T|) = |2,701 - 13810264| = 13810261,299$$

$$x_i^*(j) = \frac{(|x_i(j)-T|)-\min(|x_i(j)-T|)}{\max(|x_i(j)-T|) - \min(|x_i(j)-T|)} = \frac{13810261,299-13810261,299}{13810262,307 - 13810261,299} = 0$$

Lampiran 5. Perhitungan Nilai Delta dan Nilai Gamma (GRC) setiap respon

a) Nilai Delta :

Diket : Nilai max $x_0^*(j) = 1$

➤ **Respon Kadar Air**

1. Eksperimen 1 :

Diket : Normalisasi S/N ratio eksperimen 1 = 0,083

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,083| = 0,917$

2. Eksperimen 2 :

Diket : Normalisasi S/N ratio eksperimen 2 = 0,965

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,965| = 0,035$

3. Eksperimen 3 :

Diket : Normalisasi S/N ratio eksperimen 3 = 0,263

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,263| = 0,737$

4. Eksperimen 4 :

Diket : Normalisasi S/N ratio eksperimen 4 = 1

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 1| = 0$

5. Eksperimen 5 :

Diket : Normalisasi S/N ratio eksperimen 5 = 0,343

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,343| = 0,657$

6. Eksperimen 6 :

Diket : Normalisasi S/N ratio eksperimen 6 = 0,829

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,829| = 0,171$

7. Eksperimen 7 :

Diket : Normalisasi S/N ratio eksperimen 7 = 0

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0| = 1$

8. Eksperimen 8 :

Diket : Normalisasi S/N ratio eksperimen 8 = 0,360

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,360| = 0,640$

9. Eksperimen 9 :

Diket : Normalisasi S/N ratio eksperimen 9 = 0,229

Jawab : $\Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,229| = 0,771$

➤ **Respon Warna**

1. Eksperimen 1 :

Diket : Normalisasi S/N ratio eksperimen 1 = 0,636

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,636| = 0,364$$

2. Eksperimen 2 :

Diket : Normalisasi S/N ratio eksperimen 1 = 0,186

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,186| = 0,814$$

3. Eksperimen 3 :

Diket : Normalisasi S/N ratio eksperimen 1 = 0,373

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,373| = 0,627$$

4. Eksperimen 4 :

Diket : Normalisasi S/N ratio eksperimen 1 = 0,671

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,671| = 0,329$$

5. Eksperimen 5 :

Diket : Normalisasi S/N ratio eksperimen 5 = 1

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 1| = 0$$

6. Eksperimen 6 :

Diket : Normalisasi S/N ratio eksperimen 6 = 0,247

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,247| = 0,753$$

7. Eksperimen 7 :

Diket : Normalisasi S/N ratio eksperimen 7 = 0,288

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,288| = 0,712$$

8. Eksperimen 8 :

Diket : Normalisasi S/N ratio eksperimen 8 = 0,159

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0,159| = 0,841$$

9. Eksperimen 9 :

Diket : Normalisasi S/N ratio eksperimen 9 = 0

$$\text{Jawab : } \Delta_{0i}(j) = |x_0^*(j) - x_i^*(j)| = |1 - 0| = 1$$

b) Nilai Gamma (GRC) :

Diket :

$\Delta_{0i}(j)$ = nilai delta percobaan ke-i respon ke-j

Nilai $\zeta = 0,5$ Nilai $\Delta \max = 1$ Nilai $\Delta \min = 0$

➤ **Respon Kadar Air**

1. Eksperimen 1 :

Diket : Nilai delta eksperimen 1 : 0,917

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,917 + (0,5 \cdot 1)} = 0,353$$

2. Eksperimen 2 :

Diket : Nilai delta eksperimen 2 : 0,035

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,035 + (0,5 \cdot 1)} = 0,935$$

3. Eksperimen 3 :

Diket : Nilai delta eksperimen 3 : 0,737

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,737 + (0,5 \cdot 1)} = 0,404$$

4. Eksperimen 4 :

Diket : Nilai delta eksperimen 4 : 0

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0 + (0,5 \cdot 1)} = 1$$

5. Eksperimen 5 :

Diket : Nilai delta eksperimen 5 : 0,657

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,657 + (0,5 \cdot 1)} = 0,432$$

6. Eksperimen 6 :

Diket : Nilai delta eksperimen 6 : 0,171

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,171 + (0,5 \cdot 1)} = 0,745$$

7. Eksperimen 7 :

Diket : Nilai delta eksperimen 7 : 1

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{1 + (0,5 \cdot 1)} = 0,333$$

8. Eksperimen 8 :

Diket: Nilai delta eksperimen 8 : 0,640

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,640 + (0,5 \cdot 1)} = 0,439$$

9. Eksperimen 9 :

Diket : Nilai delta eksperimen 9 : 0,771

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{0i}(j) + \zeta \Delta_{\max}} = \frac{0 + (0,5 \cdot 1)}{0,771 + (0,5 \cdot 1)} = 0,393$$

➤ **Respon Warna**

1. Eksperimen 1 :

Diket : Nilai delta eksperimen 1 : 0,364

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,364+(0,5.1)} = 0,579$$

2. Eksperimen 2 :

Diket : Nilai delta eksperimen 2 : 0,814

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,814+(0,5.1)} = 0,380$$

3. Eksperimen 3 :

Diket : Nilai delta eksperimen 3 : 0,627

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,627+(0,5.1)} = 0,444$$

4. Eksperimen 4 :

Diket : Nilai delta eksperimen 4 : 0,329

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,329+(0,5.1)} = 0,603$$

5. Eksperimen 5 :

Diket : Nilai delta eksperimen 5 : 0

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0+(0,5.1)} = 1$$

6. Eksperimen 6 :

Diket : Nilai delta eksperimen 6 : 0,753

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,753+(0,5.1)} = 0,399$$

7. Eksperimen 7 :

Diket : Nilai delta eksperimen 7 : 0,712

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,712+(0,5.1)} = 0,412$$

8. Eksperimen 8 :

Diket : Nilai delta eksperimen 8 : 0,841

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{0,841+(0,5.1)} = 0,373$$

9. Eksperimen 9 :

Diket : Nilai delta eksperimen 9 : 1

$$\text{Jawab : } \gamma_{0i}(j) = \frac{\Delta_{min} + \zeta\Delta_{max}}{\Delta_{0i}(j) + \zeta\Delta_{max}} = \frac{0+(0,5.1)}{1+(0,5.1)} = 0,333$$

Lampiran 6. Perhitungan Nilai *Grey Relational Analysis* (GRG)

Sebelum menghitung nilai nilai *Grey Relational Analysis* (GRG), terlebih dahulu menghitung pembobot PCA melalui bantuan *software* Minitab 19 menggunakan nilai gamma dari masing – masing respon.

Diket : Nilai pembobot PC1 respon kadar air = 0,499849

Diket : Nilai pembobot PC1 respon warna = 0,499849

1. Eksperimen 1 :

Diket : Nilai gamma respon kadar air = 0,353

Nilai gamma respon warna = 0,579

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,353) + (0,499849 \times 0,579) = 0,466$$

2. Eksperimen 2 :

Diket : Nilai gamma respon kadar air = 0,935

Nilai gamma respon warna = 0,380

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,935) + (0,499849 \times 0,380) = 0,658$$

3. Eksperimen 3 :

Diket : Nilai gamma respon kadar air = 0,404

Nilai gamma respon warna = 0,444

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,404) + (0,499849 \times 0,444) = 0,424$$

4. Eksperimen 4 :

Diket : Nilai gamma respon kadar air = 1

Nilai gamma respon warna = 0,603

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 1) + (0,499849 \times 0,603) = 0,801$$

5. Eksperimen 5 :

Diket : Nilai gamma respon kadar air = 0,432

Nilai gamma respon warna = 1

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,432) + (0,499849 \times 1) = 0,716$$

6. Eksperimen 6 :

Diket : Nilai gamma respon kadar air = 0,745

Nilai gamma respon warna = 0,399

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,745) + (0,499849 \times 0,399) = 0,572$$

7. Eksperimen 7 :

Diket : Nilai gamma respon kadar air = 0,333

Nilai gamma respon warna = 0,412

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,333) + (0,499849 \times 0,412) = 0,373$$

8. Eksperimen 8 :

Diket : Nilai gamma respon kadar air = 0,439

Nilai gamma respon warna = 0,373

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,439) + (0,499849 \times 0,373) = 0,406$$

9. Eksperimen 9 :

Diket : Nilai gamma respon kadar air = 0,393


Nilai gamma respon warna = 0,333

Jawab :

$$\Gamma_{0i}(j) = \sum_{j=1}^n \beta_j \gamma_{0i}(j)$$

$$\Gamma_{0i}(j) = (0,499849 \times 0,393) + (0,499849 \times 0,333) = 0,363$$

Lampiran 7. Form Bimbingan Skripsi



UNIVERSITAS MUHAMMADIYAH SURABAYA
FAKULTAS TEKNIK
PROGRAM STUDI S-1 TEKNIK MESIN, S-1 TEKNIK ARSITEKTUR, S-1 TEKNIK SIPIL,
S-1 TEKNIK PERKAPALAN, S-1 TEKNIK ELEKTRO, S-1 TEKNIK INDUSTRI
Alamat : Jalan Sutorejo 59 Surabaya
Telp./Fax. 031-3811966 ext.138

CATATAN BIMBINGAN SKRIPSI

FORM S-10

Nama : Nabila Rahmawati
 NIM : 20191336007
 Judul Skripsi : PENINGKATAN KUALITAS UDANG REBON KERING DENGAN METODE TAGUCHI – GREY RELATIONAL ANALYSIS (GRA) DAN PRINCIPAL COMPONENT ANALYSIS (PCA)
 Tanggal Seminar : 13 April 2023
 Pembimbing Utama : M. Hanifuddin Hakim, S.T., M.T
 Pembimbing Pendamping : Poniman, S.T., M.T
 Tgl. Mulai Bimbingan : 07 Juni 2023

No.	Tgl	Materi	Paraf Pembimbing		Paraf Mahasiswa
			U*	P**	
1.	7/ Juni 2023	Persiapan EksPermen Penelitian	/		/
2	19/ Juni 2023	Persiapan + Penelitian 1 dgn Beberapa Percobaan yg dilakukan.	/		/
3.	3/ Juni 2023	Progress EksPermen dan revisi Perhitungan.	/		/
4.	4/ Juli 2023	Revisi Perhitungan respon Penelitian / EksPermen.	/		/
5.	5/ Juli 2023	Revisi Perhitungan metode lanjutan	/		/
6.	8/ Juli 2023	Konfirmasi EksPerimen Lanjutan	/		/
7.	11/ Juli 2023	Revisi Perhitungan (3)	/		/
8.	13/ Juli 2023	Revisi Perhitungan memakai rumus	/		/
9.	14/ Juli 2023	Revisi Perhitungan test ANAVA	/		/



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S-1 TEKNIK PERKAPALAN, S-1 TEKNIK ELEKTRO, S-1 TEKNIK INDUSTRI
Alamat : Jalan Sutorejo 59 Surabaya
Telp./Fax. 031-3811966 ext.138

No.	Tgl	Materi	Paraf Pembimbing		Paraf Mahasiswa
			U*	P**	
10	16 / Juli 2023	Revisi bab 4 dan 5			

Catatan:

*U artinya Utama dan **P artinya Pendamping.

Bimbingan dinyatakan selesai

Surabaya, 23. Juli 2023.

Pembimbing Utama Ditandatangani ketika skripsi tuntas (.....) Hanif	Pembimbing Pendamping Ditandatangani ketika skripsi tuntas (.....)
--	--

Lampiran 8. Form Evaluasi Penguji 1



UNIVERSITAS MUHAMMADIYAH SURABAYA
FAKULTAS TEKNIK
Program Studi Teknik Mesin, T. Elektro, T. Sipil, T. Perkapalan,
Arsitektur, D3 T. Komputer & T. Industri.
Jl. Sutorejo 59 Telp. (031) 381-1966 Fax. (031) 381-3096 Surabaya

Hasil Evaluasi Ujian Skripsi


Nama Mahasiswa : NABILA RAHMAWATI
NIM : 20191336007
Program Studi : Teknik Industri
Judul Skripsi : PENINGKATAN KUALITAS UDANG REBON KERING DENGAN
METODE TAGUCHI – GREY RELATIONAL ANALYSIS (GRA) DAN
PRINCIPAL COMPONENT ANALYSIS (PCA)

No	Uraian Perbaikan	Halaman
1.	Abstrak diperbaiki	
2.	Cover	
3.	Parafian perhatikan kembali	
4.	Diagram Alur	
5.	Jadwal penelitian	
6.	Konsistensi penggunaan kata	
7.	Setiap tabel harus ada sumber, sesuaikan dg pedoman penulisan	
8.	Tabel SN Ratio nilai	
9.	Kesimpulan & Saran	
10.	Lampiran ditambahkan	

Lembar ini harus dibawa saat persetujuan perbaikan.

Surabaya, 25 Juli 2023

Penguji


.....Si Amaliah Mandati.....

Lampiran 10. Endorsment Letter



Pusat
Bahasa

ENDORSEMENT LETTER 659/PB-UMS/EL/VII/2023

This letter is to certify that the abstract of the thesis below

Title : Improving an Quality of Dried Rebon Shrimp with A Taguchi – Grey Relational Analysis (GRA) and Principal Component Analysis (PCA) Methods
Student's name : Nabila Rahmawati
Student's ID Number : 20191336007
Department : Industrial Engineering, Undergraduate, Faculty of Engineering, Universitas Muhammadiyah Surabaya Indonesia

has been endorsed by Pusat Bahasa *UMSurabaya* for further approval by the examining committee of the faculty.

Surabaya, July 28, 2023
Chair person,



Hamsia

Dr. Waode Hamsia, M.Pd

Lampiran 11. Surat Keterangan Bebas Pinjam



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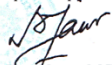
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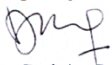
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Dengan ini menyatakan bahwa :

Nama : Nabila Rahmawati
NIM : 20191336007
Program Studi/Fakultas : (S1) Teknik Industri/Fakultas Teknik
Alamat : Jl. Sukolilo sukorejo no. 28, Sukolilo Baru, Bulak, kota SBY, Jawa Timur 60122 Indonesia
No.Telp/HP : 0895335639161

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Mengetahui,
Kepala Perpustakaan

Drs. Yarno, M.Pd.

Surabaya, 09 Agustus 2023
Petugas Perpustakaan

Dyah Ayu S.

Lampiran 12. Bukti Bebas Plagiasi



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SURAT KETERANGAN BUKTI BEBAS PLAGIASI

Naskah tugas akhir / skripsi / karya tulis / tesis*) yang diserahkan atas :

N a m a : Nabila Rahmawati
N I M : 20191336007
Fakultas/Prodi : Fakultas Teknik (S1) Teknik Industri
Alamat : Jl. Sukolilo Sukorejo no 28 Rt 05 Rw 02 kel. Sukolilo Baru Kec. Bulak Surabaya 60122 Jawa Timur
Judul : PENINGKATAN KUALITAS UDANG REBON KERING DENGAN METODE TAGUCHI – GREY RELATIONAL ANALYSIS (GRA) DAN PRINCIPAL COMPONENT ANALYSIS (PCA)

telah diserahkan dan memenuhi kriteria batas maksimal yang sudah ditentukan.

Petugas perpustakaan

Putri Rokhmawati

Surabaya, 16 Agustus 2023

Mahasiswa,

Nabila Rahmawati

Mengetahui,
Kepala Perpustakaan

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Lampiran 13. Biografi Penulis

BIOGRAFI PENULIS



Nabila Rahmawati, lahir pada tanggal 22 November 2001, di Kota Surabaya Provinsi Jawa Timur. Penulis merupakan anak ke 2 dari 2 bersaudara dari Bapak Drs. Luqmanto dan Ibu Erna Kustilawati. Penulis telah menempuh pendidikan formal di SD Muhammadiyah 9 Surabaya (lulus tahun 2013), SMP Muhammadiyah 1 Surabaya (lulus tahun 2016), dan SMA Muhammadiyah 1 Surabaya (lulus tahun 2019). Pada tahun 2019, penulis melanjutkan studi Program Sarjana di Program Studi Teknik Industri Universitas Muhammadiyah Surabaya.

Penulis memiliki bebrapa pengalaman organisasi selama menempuh masa studi Program Studi Teknik Industri Universitas Muhammadiyah Surabaya, sebagai Bendahara Umum Himpunan Mahasiswa Teknik Industri Universitas Muhammadiyah Surabaya pada masa periode 2019 – 2020, dan Sekretaris Departemen Keilmuan Himpunan Mahasiswa Teknik Industri Universitas Muhammadiyah Surabaya pada masa periode 2021 – 2022. Penulis mengikuti Unit Kegiatan Mahasiswa ORMABES (Olahraga Menjalin Kebersamaan) Universitas Muhammadiyah Surabaya sebagai Anggota Tetap Bidang Logistik pada masa periode 2019 – 2020, dan Anggota Tetap Bidang Humas Eksternal pada masa periode 2021 – 2022. Selain itu penulis aktif mengikuti volunteer kegiatan seperti Panitia Ospek Jurusan Teknik Industri tahun 2020, sebagai Devisi Sponsorship UKM ORMABES pada kegiatan OFC (ORMABES Futsal Competition) se Jawa Timur pada tahun 2020, dan Sekretaris Pelaksana UKM ORMABES Kegiatan OLC (ORMABES Leadership Class) pada tahun 2020.

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