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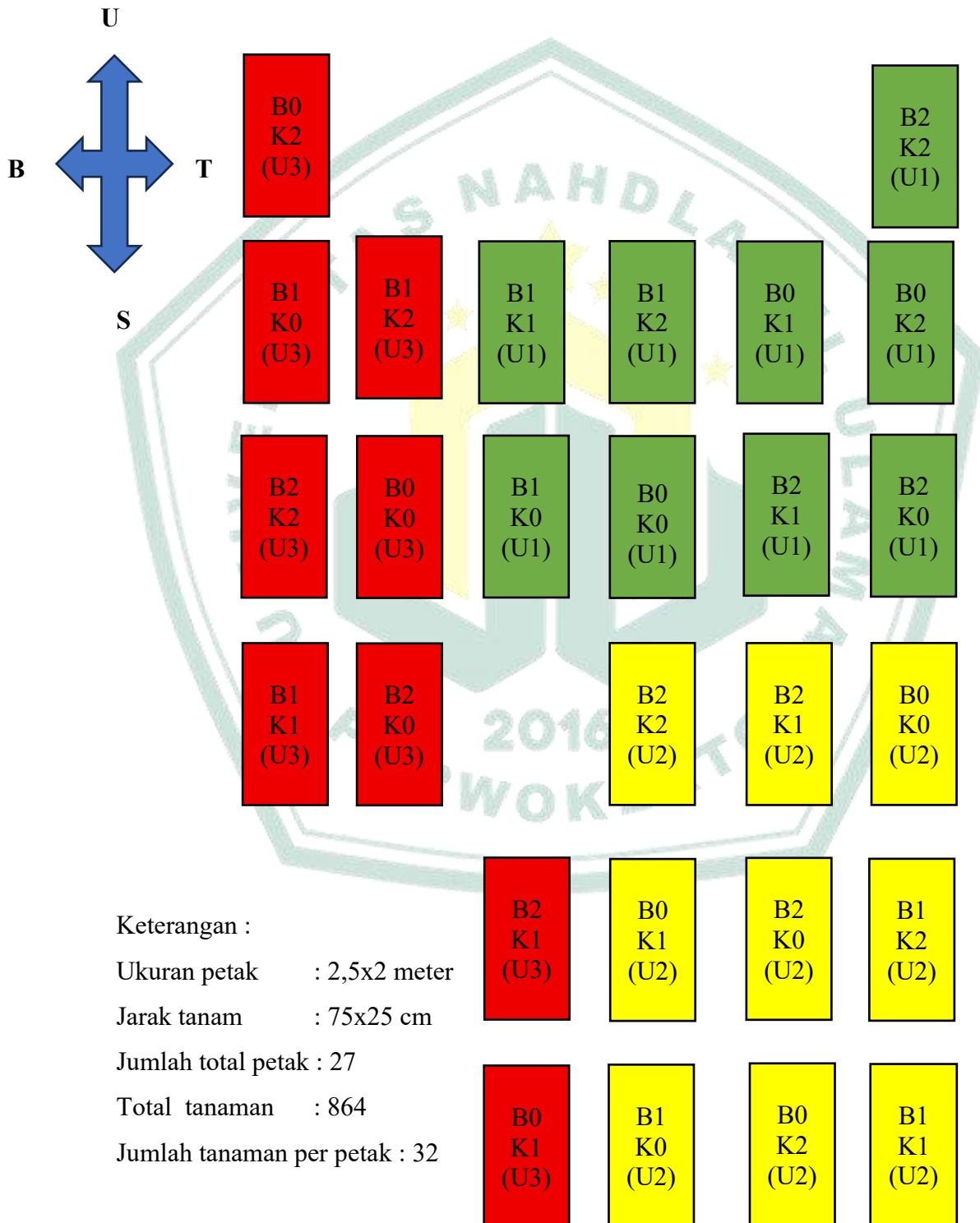
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LAMPIRAN

Lampiran 1. Denah Penelitian



Lampiran 2. Perhitungan Kebutuhan Pupuk

$$\text{Kebutuhan pupuk per petak} : = \frac{1 \text{ petak}}{1 \text{ ha}} \times \text{dosis/ha}$$

1. Pupuk Urea (350 kg/ha)

$$\text{Urea 46\% N} = \frac{350}{46} \times 100 = 760,87 \text{ gram/ha}$$

$$\begin{aligned} \text{Kebutuhan urea} &= \frac{(2,5 \times 2)}{10,000} \times 760,87 \\ &= 0,380 \text{ kg/petak} \\ &= 380 \text{ gram/petak} = 11,88 \text{ gram/tanaman} \\ 27 \text{ petak} \times 380 \text{ gr/tan} &= 10,26 \text{ kg.} \end{aligned}$$

2. Pupuk TSP (100kg/ha)

$$\begin{aligned} \text{TSP 46\%} &= \frac{100}{46} \times 100 = 217,39 \\ \text{Kebutuhan TSP} &= \frac{(2,5 \times 2)}{10,000} \times 217,39 \\ &= 0,187 \text{ kg/petak} \\ &= 187 \text{ gram/petak} = 5,84 \text{ gram/tanaman} \end{aligned}$$

3. Pupuk KCl

Pemupukan pertama 1/3 pada umur 8 hst yaitu, K1 2 gram & K2 3 gram

Pemupukan kedua 2/3 pada umur 24 hst yaitu, K1 4 gram & K2 6 gram

K1 : 288 tanaman x 6 gram = 1.728 gram

K2 : 288 tanaman x 9 gram = 2.592 gram

$$\begin{aligned} \text{Populasi} &= 1 \text{ ha} : (\text{Jarak tanam}) \\ &= 10.000 \text{ m}^2 : (75 \text{ cm} \times 25 \text{ cm}) \\ &= 10.000 \text{ m}^2 : (0,75 \text{ m}^2 \times 0,25 \text{ m}^2) \\ &= 10.000 \text{ m}^2 : 0,1875 \text{ m}^2 \\ &= 53.333 \text{ tan/ha} \\ \text{Pupuk KCl (K1)} &= 53.333 \times 6 \text{ gram} = 319.988 = 320 \text{ kg/ha} \\ \text{Pupuk KCl (K2)} &= 53.333 \times 9 \text{ gram} = 479.997 = 480 \text{ kg/ha} \end{aligned}$$

Lampiran 3. Kebutuhan *Bacillus* spp.

Kebutuhan B1 : 32 tanaman x 15 ml = 480 ml/petak.

Total kebutuhan B1 : 288 tanaman x 15 ml = 4320 ml

Kebutuhan B2 : 32 tanaman x 20 ml = 640 ml/petak.

Total kebutuhan B2 : 288 tanaman x 20 ml = 5760 ml

B1= 9 Petak

B2= 9 petak

Ulangan 1

B1K0 : *Bacillus* spp. (15 ml)

B1K1 : *Bacillus* spp. (15 ml)

B1K2 : *Bacillus* spp. (15 ml)

B2K0 : *Bacillus* spp. (20 ml)

B2K1 : *Bacillus* spp. (20 ml)

B2K2 : *Bacillus* spp. (20 ml)

Ulangan 2

B1K0 : *Bacillus* spp. (15 ml)

B1K1 : *Bacillus* spp. (15 ml)

B1K2 : *Bacillus* spp. (15 ml)

B2K0 : *Bacillus* spp. (20 ml)

B2K1 : *Bacillus* spp. (20 ml)

B2K2 : *Bacillus* spp. (20 ml)

Ulangan 3

B1K0 : *Bacillus* spp. (15 ml)

B1K1 : *Bacillus* spp. (15 ml)

B1K2 : *Bacillus* spp. (15 ml)

B2K0 : *Bacillus* spp. (20 ml)

B2K1 : *Bacillus* spp. (20 ml)

B2K2 : *Bacillus* spp. (20 ml)

B1 : 15 ml = 4320 ml = 5 liter

B1 : 20 ml = 5760 ml = 6 liter

Total : 1100 ml

Lampiran 4. Deskripsi Varietas

Varietas	: Bonanza MB F1
Asal	: PT East West Seed / Cap Panah Merah Desa Benteng, Kec. Campaka, Purwakarta, Jawa barat, Indonesia
Umur panen	: 70-73 hari setelah tanam (hst)
Potensi hasil	: 18-22 ton/ha
Isi bersih	: 3.600 butir
Bobot per buah	: 483-553 gram
Ketahanan penyakit	: Busuk batang
Rekomendasi dataran	: Dataran rendah



Lampiran 5. Dokumentasi Penelitian

a. Dokumentasi penelitian di lahan



Pengolahan lahan



Penanaman benih jagung



Perendaman benih dengan *Bacillus* spp.



Aplikasi *Bacillus* spp.



Pemeliharaan tanaman



Pemupukan



penimbangan pupuk kalium



Penomoran sampel



Pengamatan gejala karat



Gejala karat daun

b. Dokumentasi penelitian di laboratorium



Pembuatan larutan stok



Tuang *Bacillus* spp.



Isolat bakteri *Bacillus* sp.



Larutan stok *Bacillus*



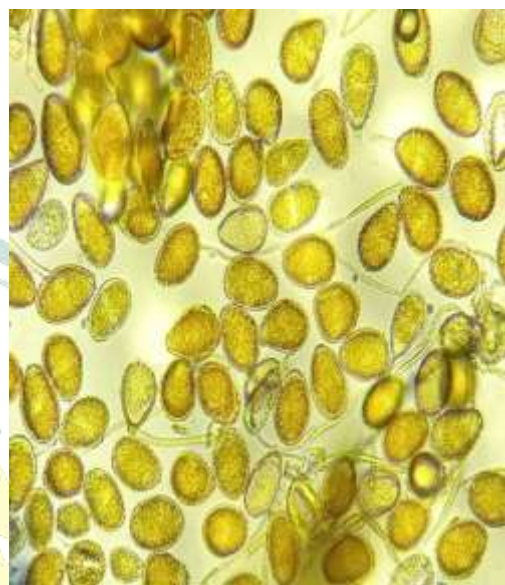
Hasil isolat *Bacillus* spp.



Hasil larutan stok *Bacillus* spp.



Pengamatan mikroskopis



Mikroskopis karat daun



Sterilisasi jarum injeksi pada suhu 100 °C



Penggojokan media *Bacillus* spp.

Lampiran 6. Hasil Analisis Data

1. Intensitas penyakit karat pada daun jagung manis

ANALYSIS OF VARIANCE										
VARIABLE: IP 42 HST										
Average of IP 42 HST					FAKTOR K					
FAKTOR B	K0	K1	K2	Grand Total						
B0	10,66666667		8	9,333333333	9,333333333					
B1		8	8		8	8				
B2	9,333333333		8	9,333333333	8,888888889					
Grand Total	9,333333333		8	8,888888889	8,740740741					
ANOVA TABLE										
EFFECT	SS	DF	MS	F	ProbF	Sign.	S.E.M.	S.E.D.	S.D. (0.05)	S.D. (0.01)
ULANGAN	15,40740741	2	7,703703704	4,52173913	0,027759					
FAKTOR B	8,296296296	2	4,148148148	2,434782609	0,119358		0,435087	0,615305	1,304389	1,797173
FAKTOR K	8,296296296	2	4,148148148	2,434782609	0,119358		0,435087	0,615305	1,304389	1,797173
FAKTOR B x FAKTOR K	5,925925926	4	1,481481481	0,869565217	0,503395		0,753592	1,06574	2,259269	3,112795
Residual	27,25925926	16	1,703703704							
Total	65,18518519	26	2,507122507							
C.V. (%) = 14,9330594802593										

ANALYSIS OF VARIANCE									
VARIABLE: IP 49 HST									
Average of IP 49 HST									
FAKTOR K									
FAKTOR B	K0	K1	K2	Grand Total					
B0	21,33333333	14,66666667	17,33333333	17,77777778					
B1	14,66666667	13,33333333	16	14,66666667					
B2	17,33333333	17,33333333	16	16,88888889					
Grand Total	17,77777778	15,11111111	16,44444444	16,44444444					
ANOVA TABLE									
EFFECT	SS	DF	MS	F	ProbF	Sign.	S.E.M.	S.E.D.	..S.D. (0.05.S.D. (0.01)
ULANGAN	67,55555556	2	33,77777778	4	0,039018				
FAKTOR B	46,22222222	2	23,11111111	2,736842105	0,094996		0,968644	1,36987	2,903994 4,00109
FAKTOR K	32	2	16	1,894736842	0,182594		0,968644	1,36987	2,903994 4,00109
FAKTOR B x FAKTOR K	49,77777778	4	12,44444444	1,473684211	0,256497		1,677741	2,372684	5,029866 6,930092
Residual	135,1111111	16	8,444444444						
Total	330,6666667	26	12,71794872						
C.V. (%) = 17,671211933273									

ANALYSIS OF VARIANCE					MULTIPLE COMPARISON TEST				
VARIABLE: IP 56 HST					Procedure: Duncan's multiple range test (p= 0,05)				
					S.E.M.: 0,929621971517455; DF: 16				
					Critical range; 0; 2,789; 2,928; 3,003; 3,068; 3,105; 3,133; 3,151; 3,17				
Average of IP 56 HST									
FAKTOR B	K0	K1	K2	Grand Total	1	25,33333	a		
B0	25,33333333		20	21,33333333	22,22222222	5	24	ab	
B1		20	24	20	21,33333333	3	21,33333	bc	
B2	21,33333333		20	21,33333333	20,88888889	7	21,33333	bc	
Grand Total	22,22222222	21,33333333	20,88888889	21,48148148	9	21,33333	bc		
					6	20	c		
					4	20	c		
ANOVA TABLE					8	20	c		
					2	20	c		
EFFECT	SS	DF	MS	F	ProbF	Sign.	S.E.M.	S.E.D.	..S.D. (0.05.S.D. (0.01)
ULANGAN	1,185185185	2	0,592592593	0,228571429	0,798223				
FAKTOR B	8,296296296	2	4,148148148	1,6	0,232568		0,536718	0,759033	1,609079 2,216971
FAKTOR K	8,296296296	2	4,148148148	1,6	0,232568		0,536718	0,759033	1,609079 2,216971
FAKTOR B x FAKTOR K	73,48148148	4	18,37037037	7,085714286	0,001757	**	0,929622	1,314684	2,787006 3,839906
Residual	41,48148148	16	2,592592593						
Total	132,7407407	26	5,105413105						
C.V. (%) = 7,49553969630474									

ANALYSIS OF VARIANCE										
VARIABLE: IP 63 HST										
Average of IP 63 HST										
FAKTOR B	K0	K1	K2	Grand Total						
B0	33,33333333	30,66666667	30,66666667	31,55555556						
B1	29,33333333	30,66666667	30,66666667	30,22222222						
B2	30,66666667		28	32						
Grand Total	31,11111111	29,77777778	31,11111111	30,66666667						
ANOVA TABLE										
EFFECT	SS	DF	MS	F	ProbF	Sign.	S.E.M.	S.E.D.	..S.D. (0.05.S.D. (0.01	
ULANGAN	10,66666667	2	5,333333333	0,666666667	0,527112					
FAKTOR B	10,66666667	2	5,333333333	0,666666667	0,527112		0,942809	1,333333	2,82654	3,894375
FAKTOR K	10,66666667	2	5,333333333	0,666666667	0,527112		0,942809	1,333333	2,82654	3,894375
FAKTOR B x FAKTOR K	32	4	8	1	0,436208		1,632993	2,309401	4,895712	6,745256
Residual	128	16	8							
Total	192	26	7,384615385							
C.V. (%) = 9,22313192852018										

ANALYSIS OF VARIANCE										
VARIABLE: IP 70 HST										
Average of IP 70 HST										
FAKTOR B	K0	K1	K2	Grand Total						
B0	37,33333333	37,33333333	37,33333333	37,33333333						
B1	33,33333333	34,66666667	36	34,66666667						
B2	36	32	37,33333333	35,11111111						
Grand Total	35,55555556	34,66666667	36,88888889	35,7037037						
ANOVA TABLE										
EFFECT	SS	DF	MS	F	ProbF	Sign.	S.E.M.	S.E.D.	..S.D. (0.05.S.D. (0.01	
ULANGAN	36,74074074	2	18,37037037	4,96	0,02108					
FAKTOR B	36,74074074	2	18,37037037	4,96	0,02108 *		0,6415	0,907218	1,923217	2,649787
FAKTOR K	22,51851852	2	11,25925926	3,04	0,076027		0,6415	0,907218	1,923217	2,649787
FAKTOR B x FAKTOR K	34,37037037	4	8,592592593	2,32	0,101362		1,111111	1,571348	3,33111	4,589566
Residual	59,25925926	16	3,703703704							
Total	189,6296296	26	7,293447293							
C.V. (%) = 5,39019960861708										

2. Hasil perhitungan AUDPC daun

$$\text{AUDPC} = \sum_{i=1}^{n-1} \left(\frac{X_i + X_{i+1}}{2} \right) \times (T_{i+1} - T_i)$$

Keterangan :

AUDPC : area di bawah kurva perkembangan penyakit

X_i : tingkat keparahan penyakit ke-i

T_i : waktu pengamatan ke-i

n : jumlah pengamatan

(B0K0)

$$\frac{12 + 20}{2} \times 7 + \frac{20 + 24}{2} \times 7 + \frac{24 + 32}{2} \times 7 + \frac{32 + 36}{2} \times 7$$

$$= 112 + 154 + 196 + 238 = 700$$

$$\frac{12 + 24}{2} \times 7 + \frac{24 + 28}{2} \times 7 + \frac{28 + 36}{2} \times 7 + \frac{36 + 40}{2} \times 7$$

$$= 126 + 182 + 224 + 266 = 798$$

$$\frac{8 + 20}{2} \times 7 + \frac{20 + 24}{2} \times 7 + \frac{24 + 32}{2} \times 7 + \frac{32 + 36}{2} \times 7$$

$$= 98 + 154 + 196 + 238 = 686$$

$$= \frac{700 + 798 + 686}{3} = 728$$

(B0K1)

$$\begin{aligned} & \frac{8+12}{2}x7 + \frac{12+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+36}{2}x7 \\ &= 70+112+168+224=574 \\ & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+40}{2}x7 \\ &= 84+126+182+252=644 \\ & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 84+126+182+238=630 \\ &= \frac{574 + 644 + 630}{3} = 616 \end{aligned}$$

(B0K2)

$$\begin{aligned} & \frac{12+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 112+140+182+238=672 \\ & \frac{12+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 112+140+182+238=672 \\ & \frac{8+12}{2}x7 + \frac{12+24}{2}x7 + \frac{24+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 70+126+196+238=630 \\ &= \frac{672 + 672 + 630}{3} = 658 \end{aligned}$$

(B1K0)

$$\begin{aligned} & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+60}{2}x7 \\ &= 84+126+168+308=686 \\ & \frac{8+12}{2}x7 + \frac{12+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 70+112+182+238=602 \\ & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 84+126+168+210=588 \\ &= \frac{686 + 602 + 588}{3} = 625,333 \end{aligned}$$

(B1K1)

$$\begin{aligned} & \frac{8+16}{2}x7 + \frac{16+24}{2}x7 + \frac{24+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 84+140+196+238=658 \\ & \frac{12+12}{2}x7 + \frac{12+24}{2}x7 + \frac{24+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 84+126+182+210=602 \\ & \frac{8+12}{2}x7 + \frac{12+24}{2}x7 + \frac{24+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 70+126+196+238=630 \\ &= \frac{658 + 602 + 630}{3} = 630 \end{aligned}$$

(B1K2)

$$\begin{aligned} & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 84+126+182+238=630 \\ & \frac{8+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+36}{2}x7 \\ &= 98+140+168+224=630 \\ & \frac{8+12}{2}x7 + \frac{12+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 70+112+182+238=602 \\ &= \frac{630 + 630 + 602}{3} = 620,667 \end{aligned}$$

(B2K0)

$$\begin{aligned} & \frac{8+20}{2}x7 + \frac{20+24}{2}x7 + \frac{24+28}{2} + x7 + \frac{28+36}{2}x7 \\ &= 112+154+182+224=672 \\ & \frac{8+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+36}{2} + x7 + \frac{36+40}{2}x7 \\ &= 98+140+196+266=700 \\ & \frac{8+12}{2}x7 + \frac{12+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 70+112+168+210=560 \\ &= \frac{672 + 700 + 560}{3} = 644 \end{aligned}$$

(B2K1)

$$\begin{aligned} & \frac{8+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 98+140+168+210=616 \\ & \frac{8+20}{2}x7 + \frac{20+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 98+140+168+210=616 \end{aligned}$$

$$\begin{aligned} & \frac{8+12}{2}x7 + \frac{12+20}{2}x7 + \frac{20+28}{2} + x7 + \frac{28+32}{2}x7 \\ &= 70+112+168+210=560 \\ &= \frac{616 + 616 + 560}{3} = 597,333 \end{aligned}$$

(B2K2)

$$\begin{aligned} & \frac{12+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+32}{2} + x7 + \frac{32+36}{2}x7 \\ &= 98+126+182+238=644 \\ & \frac{8+16}{2}x7 + \frac{16+20}{2}x7 + \frac{20+36}{2} + x7 + \frac{36+40}{2}x7 \\ &= 84+126+196+266=672 \\ & \frac{8+16}{2}x7 + \frac{16+24}{2}x7 + \frac{24+28}{2} + x7 + \frac{28+36}{2}x7 \\ &= 84+140+182+224=630 \\ &= \frac{644 + 672 + 630}{3} = 648,667 \end{aligned}$$

3. Hasil perhitungan efektivitas perlakuan

(B0K1)

$$\frac{25,33-20,00}{25,33} \times 100 = 21,04\%$$

(B0K2)

$$\frac{25,33-21,33}{25,33} \times 100 = 15,79\%$$

(B1K0)

$$\frac{25,33-20,00}{25,33} \times 100 = 21,04\%$$

(B1K1)

$$\frac{25,33-24,00}{25,33} \times 100 = 5,25\%$$

(B1K2)

$$\frac{25,33-20,00}{25,33} \times 100 = 21,04\%$$

(B2K0)

$$\frac{25,33-21,33}{25,33} \times 100 = 15,79\%$$

(B2K1)

$$\frac{25,33-20,00}{25,33} \times 100 = 21,04\%$$

(B2K2)

$$\frac{25,33-21,33}{25,33} \times 100 = 15,79\%$$