

## DAFTAR PUSTAKA

- Box, G. E. P. dan Hunter, J. S. 1961. *The fractional factorial design part I, II*. *Technometrics* 3:311-48.
- Box, G. E. P. dan Meyer, R. D. 1986. *An Analysis for Unreplicated Fractional Factorials*. *Technometrics*. 28. 1 pp. 11-18.
- Dong., F. 1993. *On the Identification of Active Contrasts in Unreplicated Fractional Factorial*. *Statistics Sinica* 3, pp 209-217.
- Hakim. 1998. *Replikasi Fraksional pada Percobaan Faktorial  $3^k$* . Skripsi Jurusan Matematika Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Hasanuddin. Makassar.
- Mattjik, A.A. dan Sumertajaya, I.M. 2002. *Perancangan Percobaan dengan Aplikasi SAS dan Minitab. Edisi kedua*. Institut Pertanian Bogor Press. Bogor.
- Montgomery Douglas C. 2001. *Design and Analysis of Experiments*. 5th Edition, John Wiley & Sons.
- Sauddin, Adnan. 2006. *Identifikasi Faktor Signifikan Rancangan Faktorial Fraksional tanpa Pengulangan dengan Metode Bissell, Lenth, dan Fang*. Tesis Program Studi Magister Jurusan Statistika Fakultas Matematika dan Ilmu Pengetahuan Alam Institut Teknologi Sepuluh Nopember. Surabaya.
- Sutopo, L. 2002. *Teknologi Benih*. PT. Raja Grafindo Persada. Jakarta.
- Voelkel, G. J dan Rochester, CQAS, R.I.T., 2004. *The Efficiencies of Fractional Factorial Designs*. Technical Report 2004-1. [http://www.rit.edu/\\_636www/about/TR2004-1.pdf](http://www.rit.edu/_636www/about/TR2004-1.pdf).

Winarni, Sri. 2006. *Kajian pada Rancangan Fractional Factorial dan Fractional Factorial Split - Plot*. Tesis Program Studi Statistika Sekolah Pascasarjana Institut Pertanian Bogor. Bogor.

## Lampiran 1

Tabel 35. Rancangan *Fractional Factorial*  $3^{k-p}$

Fraksi ( $p$ )	Faktor ( $k$ )	Resolusi	Kriteria rancangan	Generator	<i>Defining relation</i>	Kombinasi yang terambil
$\frac{1}{3}$	3	<i>III</i>	Faktor utama dan interaksi <i>BC</i>	$C = AB$	$I = ABC^2$	000, 101, 202, 011, 112, 210, 022, 120, 221
	4	<i>IV</i>	Rancangan terbaik	$D = ABC^2$	$I = ABC^2D^2$	0000, 1001, 2002, 0101, 1102, 2100, 0202, 1200, 2201, 0012, 1010, 2011, 0110, 1111, 2112, 0211, 1212, 2210, 0021, 1022, 2020, 0122, 1120, 2121, 0220, 1221, 2222
$\frac{1}{9}$	3	-	-	-	-	-
	4	<i>III</i>	Rancangan terbaik	$C = AB$ $D = AB^2$	$I = ABC^2 = AB^2D^2$ $= AC = BCD^2$	0000, 1011, 2022, 0112, 1120, 2101, 0221, 1202, 2210
	5	<i>III</i>	Faktor utama dan faktor <i>AB</i> dan <i>BC</i>	$D = AB^2C^2$ $E = AB^2C$	$I = AB^2C^2D^2 = AB^2CE^2$ $= CD^2E = AB^2DE$	00000, 10011, 20022, 01022, 11000, 21011, 02011, 12022, 22000, 00121, 10102, 20110, 01110, 11121, 21102, 02101, 12110, 22121, 00212, 10220, 20201, 01201, 11212, 21220, 02220, 12201, 22212

Lanjutan tabel 35

Fraksi ( <i>p</i> )	Faktor ( <i>k</i> )	Resolusi	Kriteria rancangan	Generator	Defining relation	Kombinasi yang terambil
$\frac{1}{27}$	3	-	-	-	-	-
	4	-	-	-	-	-
	5	-	-	-	-	-
	6	III	Rancangan terbaik	$D = ABC^2$ $E = AB$ $F = AC^2$	$I = ABC^2D^2 = ABE$ $= AC^2F^2 = ABCDE^2$ $= CDE = AB^2C^2DF$ $= BD^2F = AB^2CE^2F$ $= BCEF$	00000, 100111, 200222, 010110, 110221, 210002, 020220, 120001, 220112, 001202, 101010, 201121, 011012, 111120, 211201, 021122, 121200, 221011, 002101, 102212, 202020, 012211, 112022, 212100, 022021, 122102, 222210

## Lampiran 2

Nilai Untuk Distribusi  $\chi^2$  dimana  $\nu = dk$   
 ( Bilangan dalam Daftar Badan Daftar menyatakan  $\chi_p^2$  )

$\nu$	$\chi_{0.995}^2$	$\chi_{0.99}^2$	$\chi_{0.975}^2$	$\chi_{0.95}^2$	$\chi_{0.10}^2$	$\chi_{0.05}^2$	$\chi_{0.025}^2$	$\chi_{0.01}^2$	$\chi_{0.005}^2$
1	7.879	6.635	5.024	3.841	0.016	0.004	0.001	0.0002	0
2	10.597	9.21	7.378	5.991	0.211	0.103	0.051	0.02	0.01
3	12.838	11.345	9.348	7.815	0.584	0.352	0.216	0.115	0.072
4	14.86	13.277	11.143	9.488	1.064	0.711	0.484	0.297	0.207
5	16.75	15.086	12.833	11.07	1.61	1.145	0.831	0.554	0.412
6	18.548	16.812	14.449	12.592	2.204	1.635	1.237	0.872	0.676
7	20.278	18.475	16.013	14.067	2.833	2.167	1.69	1.239	0.989
8	21.955	20.09	17.535	15.507	3.49	2.733	2.18	1.646	1.344
9	23.589	21.666	19.023	16.919	4.168	3.325	2.7	2.088	1.735
10	25.188	23.209	20.483	18.307	4.865	3.94	3.247	2.558	2.156
11	26.757	24.725	21.92	19.675	5.578	4.575	3.816	3.053	2.603
12	28.3	26.217	23.337	21.026	6.304	5.226	4.404	3.571	3.074
13	29.819	27.688	24.736	22.362	7.042	5.892	5.009	4.107	3.565
14	31.319	29.141	26.119	23.685	7.79	6.571	5.629	4.66	4.075
15	32.801	30.578	27.488	24.996	8.547	7.261	6.262	5.229	4.601
16	34.267	32	28.845	26.296	9.312	7.962	6.908	5.812	5.142
17	35.718	33.409	30.191	27.587	10.085	8.672	7.564	6.408	5.697
18	37.156	34.805	31.526	28.869	10.865	9.39	8.231	7.015	6.265
19	38.582	36.191	32.852	30.144	11.651	10.117	8.907	7.633	6.844
20	39.997	37.566	34.17	31.41	12.443	10.851	9.591	8.26	7.434
21	41.401	38.932	35.479	32.671	13.24	11.591	10.283	8.897	8.034
22	42.796	40.289	36.781	33.924	14.041	12.338	10.982	9.542	8.643
23	44.181	41.638	38.076	35.172	14.848	13.091	11.689	10.196	9.26
24	45.559	42.98	39.364	36.415	15.659	13.848	12.401	10.856	9.886

Lanjutan Nilai Persentil Untuk Distribusi  $\chi^2$  dimana  $\nu = dk$   
 ( Bilangan dalam Daftar Badan Daftar menyatakan  $\chi_p^2$  )

$\nu$	$\chi_{0.995}^2$	$\chi_{0.99}^2$	$\chi_{0.975}^2$	$\chi_{0.95}^2$	$\chi_{0.10}^2$	$\chi_{0.05}^2$	$\chi_{0.025}^2$	$\chi_{0.01}^2$	$\chi_{0.005}^2$
25	46.928	44.314	40.646	37.652	16.473	14.611	13.12	11.524	10.52
26	48.29	45.642	41.923	38.885	17.292	15.379	13.844	12.198	11.16
27	49.645	46.963	43.195	40.113	18.114	16.151	14.573	12.879	11.808
28	50.993	48.278	44.461	41.337	18.939	16.928	15.308	13.565	12.461
29	52.336	49.588	45.722	42.557	19.768	17.708	16.047	14.256	13.121
30	53.672	50.892	46.979	43.773	20.599	18.493	16.791	14.953	13.787
40	66.766	63.691	59.342	55.758	29.051	26.509	24.433	22.164	20.707
50	79.49	76.154	71.42	67.505	37.689	34.764	32.357	29.707	27.991
60	91.952	88.379	83.298	79.082	46.459	43.188	40.482	37.485	35.534
70	104.215	100.425	95.023	90.531	55.329	51.739	48.758	45.442	43.275
80	116.321	112.329	106.629	101.879	64.278	60.391	57.153	53.54	51.172
90	128.299	124.116	118.136	113.145	73.291	69.126	65.647	61.754	59.196
100	140.169	135.807	129.561	124.342	82.358	77.929	74.222	70.065	67.328