Lampiran 1: Data Pengamatan Suhu Lingkungan Selama Perlakuan ($^{o}C$)

| Minggu ke | Tgl mulai | Jam | Hasil Pengukuran/Hari | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 11-11-93 | 07.00 | 26.5 | 25.0 | 25.0 | 25.0 | 26.0 | 24.0 | 23.0 |
| I | | 13.00 | 34.0 | 33.0 | 34.0 | 33.0 | 34.5 | 31.5 | 30.0 |
| | | 17.00 | 27.5 | 26.5 | 26.0 | 27.0 | 23.5 | 23.5 | 22.5 |
| | 18-11-93 | 07.00 | 23.5 | 22.5 | 23.0 | 23.0 | 24.0 | 24.0 | 23.0 |
| II | | 13.00 | 29.5 | 32.0 | 31.0 | 31.5 | 32.0 | 32.5 | 30.5 |
| | | 17.00 | 24.5 | 23.5 | 24.0 | 22.5 | 23.0 | 23.5 | 23.0 |
| | 25-11-93 | 07.00 | 22.0 | 22.5 | 23.5 | 23.0 | 23.0 | 22.5 | 23.0 |
| III | | 13.00 | 29.5 | 29.0 | 30.0 | 29.5 | 31.0 | 32.0 | 31.0 |
| | | 17.00 | 24.0 | 24.0 | 24.0 | 23.0 | 24.0 | 23.5 | 23.5 |
| | 02-12-93 | 07.00 | 23.5 | 22.0 | 23.0 | 23.0 | 24.0 | 23.0 | 23.0 |
| IV | | 13.00 | 31.0 | 29.0 | 30.0 | 30.0 | 30.0 | 29.0 | 30.0 |
| | | 17.00 | 24.0 | 23.0 | 23.0 | 23.0 | 24.0 | 23.0 | 24.0 |
| | 09-12-93 | 07.00 | 22.0 | 23.0 | 23.0 | 22.0 | 21.0 | 21.0 | 22.0 |
| V | | 13.00 | 27.0 | 28.0 | 27.0 | 25.0 | 25.0 | 24.0 | 24.0 |
| | | 17.00 | 24.0 | 23.0 | 24.0 | 24.0 | 22.5 | 22.0 | 23.0 |
| | 16-12-93 | 07.00 | 24.0 | 23.0 | 23.5 | 22.0 | 23.0 | 23.5 | 24.0 |
| VI | | 13.00 | 29.0 | 30.0 | 30.0 | 30.0 | 27.0 | 28.0 | 27.0 |
| | | 17.00 | 24.0 | 23.5 | 24.0 | 23.0 | 24.0 | 24.0 | 23.0 |
| | 23-12-93 | 07.00 | 22.5 | 23.0 | 23.0 | 22.5 | 23.0 | 23.0 | 24.0 |
| VII | | 13.00 | 32.0 | 31.0 | 31.0 | 29.0 | 30.0 | 30.0 | 30.0 |
| | | 17.00 | 23.0 | 23.5 | 24.0 | 23.0 | 23.0 | 24.0 | 23.0 |
| | 30-12-93 | 07.00 | 23.0 | 22.0 | 22.5 | 23.0 | 23.5 | 23.0 | 22.0 |
| VIII | | 13.00 | 32.0 | 30.5 | 29.0 | 29.5 | 31.0 | 30.0 | 31.0 |
| | | 17.00 | 23.5 | 24.0 | 24.0 | 23.0 | 24.0 | 24.0 | 24.0 |
| | 06-01-94 | 07.00 | 23.0 | 22.5 | 23.0 | 23.5 | 22.0 | 23.0 | 24.0 |
| IX | | 13.00 | 29.5 | 30.0 | 31.0 | 31.0 | 32.0 | 29.0 | 31.0 |
| | | 17.00 | 23.0 | 24.0 | 24.0 | 23.5 | 24.0 | 23.0 | 23.0 |
| | 13-01-94 | 07.00 | 23.0 | 24.0 | 24.0 | 23.0 | 22.0 | 22.5 | 23.0 |
| X | | 13.00 | 31.0 | 31.5 | 32.0 | 33.0 | 30.5 | 29.5 | 30.0 |
| | | 17.00 | 22.0 | 23.0 | 24.0 | 23.5 | 24.0 | 23.0 | 23.0 |
| | 20-01-94 | 07.00 | 23.0 | 23.5 | 23.0 | 23.0 | 22.5 | 24.0 | 23.0 |
| XI | | 13.00 | 30.0 | 31.0 | 32.0 | 31.0 | 31.0 | 30.0 | 30.0 |
| | | 17.00 | 24.0 | 24.0 | 24.0 | 24.5 | 23.0 | 24.0 | 23.5 |
| | 27-01-94 | 07.00 | 23.5 | 22.5 | 23.0 | 23.0 | 24.0 | 24.0 | 23.0 |
| XII | | 13.00 | 32.0 | 31.0 | 29.5 | 30.0 | 30.0 | 30.5 | 31.0 |
| | | 17.00 | 23.5 | 24.0 | 24.0 | 24.0 | 24.5 | 25.0 | 24.0 |

Sumber : Data Primer oleh Puji Setianingsih, Januari 1994

Lampiran 2: Data Pengamatan Kelembaban Lingkungan selama Perlakuan ($^{o}C$)

| Minggu ke | Tgl mulai | Jam | Hasil Pengukuran/Hari | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 11-11-93 | 07.00 | 84.0 | 88.0 | 84.0 | 83.0 | 78.0 | 80.0 | 78.0 |
| I | | 13.00 | 72.0 | 70.0 | 70.0 | 76.0 | 70.0 | 73.0 | 71.0 |
| | | 17.00 | 87.0 | 88.0 | 87.0 | 80.0 | 79.5 | 81.0 | 82.0 |
| | 18-11-93 | 07.00 | 88.0 | 84.0 | 81.0 | 79.0 | 78.0 | 80.0 | 79.0 |
| II | | 13.00 | 70.0 | 72.0 | 68.0 | 72.0 | 60.0 | 69.0 | 69.0 |
| | | 17.00 | 88.0 | 82.0 | 79.0 | 77.0 | 63.0 | 72.0 | 74.0 |
| | 25-11-93 | 07.00 | 84.0 | 79.0 | 83.0 | 71.0 | 79.0 | 78.0 | 81.0 |
| III | | 13.00 | 70.0 | 59.0 | 63.0 | 63.0 | 62.0 | 61.0 | 70.0 |
| | | 17.00 | 87.0 | 75.0 | 76.5 | 76.0 | 70.0 | 65.0 | 82.0 |
| | 02-12-93 | 07.00 | 83.0 | 82.0 | 79.0 | 80.0 | 81.0 | 81.0 | 79.0 |
| IV | | 13.00 | 76.0 | 69.0 | 72.0 | 67.0 | 70.0 | 71.0 | 68.0 |
| | | 17.00 | 80.0 | 83.0 | 77.0 | 79.0 | 82.0 | 83.0 | 78.0 |
| | 09-12-93 | 07.00 | 83.0 | 84.0 | 84.0 | 82.0 | 81.0 | 81.0 | 71.0 |
| V | | 13.00 | 73.0 | 70.0 | 68.0 | 69.0 | 68.0 | 69.0 | 63.0 |
| | | 17.00 | 81.0 | 80.0 | 79.0 | 81.0 | 79.0 | 74.0 | 70.0 |
| | 16-12-93 | 07.00 | 80.0 | 81.0 | 81.0 | 79.0 | 79.0 | 83.0 | 88.0 |
| VI | | 13.00 | 67.0 | 70.0 | 71.0 | 69.0 | 59.0 | 76.0 | 70.0 |
| | | 17.00 | 79.0 | 82.0 | 84.0 | 74.0 | 75.0 | 80.0 | 83.0 |
| | 23-12-93 | 07.00 | 71.0 | 79.0 | 78.0 | 80.0 | 81.0 | 82.0 | 79.0 |
| VII | | 13.00 | 63.0 | 62.0 | 61.0 | 67.0 | 70.0 | 69.0 | 72.0 |
| | | 17.00 | 76.0 | 70.0 | 65.0 | 79.0 | 82.0 | 83.0 | 78.0 |
| | 30-12-93 | 07.00 | 81.0 | 79.0 | 85.0 | 84.0 | 83.0 | 78.0 | 80.0 |
| VIII | | 13.00 | 70.0 | 60.0 | 70.0 | 72.0 | 70.0 | 70.0 | 73.0 |
| | | 17.00 | 80.0 | 81.0 | 84.0 | 80.0 | 81.0 | 79.0 | 81.0 |
| | 06-01-94 | 07.00 | 85.0 | 82.0 | 79.0 | 80.0 | 84.0 | 79.0 | 80.0 |
| IX | | 13.00 | 75.0 | 69.0 | 73.0 | 65.0 | 72.0 | 72.0 | 61.0 |
| | | 17.00 | 73.0 | 74.0 | 70.0 | 73.0 | 79.0 | 77.0 | 72.0 |
| | 13-01-94 | 07.00 | 79.0 | 80.0 | 84.0 | 78.0 | 81.0 | 79.0 | 84.0 |
| X | | 13.00 | 63.0 | 65.0 | 67.0 | 61.0 | 70.0 | 72.0 | 67.0 |
| | | 17.00 | 76.0 | 79.0 | 81.0 | 65.0 | 82.0 | 77.0 | 80.0 |
| | 20-01-94 | 07.00 | 84.0 | 79.0 | 83.0 | 80.0 | 83.0 | 82.0 | 78.0 |
| XI | | 13.00 | 70.0 | 68.0 | 73.0 | 65.0 | 66.0 | 69.0 | 74.0 |
| | | 17.00 | 81.0 | 77.0 | 81.0 | 69.0 | 70.0 | 74.0 | 75.0 |
| | 27-01-94 | 07.00 | 85.0 | 80.0 | 80.0 | 78.0 | 81.0 | 80.0 | 79.0 |
| XII | | 13.00 | 75.0 | 65.0 | 67.0 | 71.0 | 68.0 | 61.0 | 64.0 |
| | | 17.00 | 79.0 | 75.0 | 79.0 | 77.0 | 76.0 | 72.0 | 74.0 |

Sumber : Data Primer oleh Puji Setianingsih, Januari 1994

Lampiran 3: Data Pengamatan Suhu Tanah Lanau-liat Berpasir selama Perlakuan ($^{o}C$)

| Minggu ke | Tgl mulai | Jam | Hasil Pengukuran/Hari | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 11-11-93 | 07.00 | 26.5 | 23.0 | 24.0 | 23.0 | 24.5 | 24.5 | 24.5 |
| I | | 13.00 | 38.0 | 35.5 | 36.0 | 35.0 | 37.0 | 38.0 | 37.0 |
| | | 17.00 | 35.0 | 34.0 | 34.0 | 34.5 | 35.0 | 34.5 | 26.5 |
| | 18-11-93 | 07.00 | 25.0 | 24.5 | 24.5 | 24.5 | 24.0 | 24.0 | 24.5 |
| II | | 13.00 | 38.0 | 35.5 | 36.0 | 35.5 | 38.0 | 38.0 | 35.5 |
| | | 17.00 | 29.0 | 29.5 | 26.5 | 24.5 | 35.0 | 35.5 | 24.5 |
| | 25-11-93 | 07.00 | 25.0 | 24.5 | 25.0 | 24.5 | 24.5 | 24.5 | 24.0 |
| III | | 13.00 | 39.5 | 35.0 | 38.0 | 35.5 | 36.0 | 36.5 | 35.0 |
| | | 17.00 | 30.5 | 29.5 | 30.0 | 24.5 | 30.0 | 30.5 | 25.0 |
| | 02-12-93 | 07.00 | 25.0 | 25.0 | 24.0 | 24.0 | 24.5 | 24.5 | 24.5 |
| IV | | 13.00 | 38.0 | 38.5 | 38.5 | 38.0 | 38.0 | 35.5 | 36.0 |
| | | 17.00 | 32.0 | 31.5 | 27.0 | 27.0 | 30.0 | 24.5 | 25.0 |
| | 09-12-93 | 07.00 | 25.0 | 25.0 | 25.0 | 25.5 | 25.5 | 25.0 | 25.5 |
| V | | 13.00 | 37.5 | 38.0 | 38.0 | 36.0 | 36.0 | 35.5 | 35.5 |
| | | 17.00 | 31.0 | 30.5 | 30.0 | 30.0 | 28.0 | 27.5 | 29.0 |
| | 16-12-93 | 07.00 | 24.5 | 24.0 | 24.0 | 25.0 | 24.0 | 24.5 | 25.0 |
| VI | | 13.00 | 38.0 | 38.5 | 38.0 | 37.0 | 36.0 | 37.5 | 38.0 |
| | | 17.00 | 34.0 | 34.0 | 34.5 | 30.5 | 29.5 | 29.0 | 34.0 |
| | 23-12-93 | 07.00 | 24.0 | 23.5 | 23.0 | 24.0 | 25.0 | 25.0 | 25.0 |
| VII | | 13.00 | 38.0 | 37.5 | 38.0 | 38.0 | 37.0 | 38.0 | 38.5 |
| | | 17.00 | 30.5 | 30.5 | 30.0 | 30.0 | 29.5 | 29.5 | 30.0 |
| | 30-12-93 | 07.00 | 25.0 | 24.5 | 24.0 | 25.0 | 25.0 | 24.5 | 24.0 |
| VIII | | 13.00 | 38.5 | 36.0 | 36.0 | 37.0 | 37.5 | 38.0 | 37.0 |
| | | 17.00 | 29.5 | 30.5 | 29.0 | 27.0 | 28.0 | 30.0 | 28.0 |
| | 06-01-94 | 07.00 | 25.0 | 24.5 | 25.0 | 25.0 | 25.0 | 24.5 | 25.0 |
| IX | | 13.00 | 38.5 | 37.0 | 38.5 | 38.0 | 38.0 | 37.0 | 36.0 |
| | | 17.00 | 28.0 | 29.0 | 30.5 | 29.0 | 30.0 | 27.5 | 29.0 |
| | 13-01-94 | 07.00 | 24.5 | 24.5 | 25.0 | 25.5 | 25.0 | 25.5 | 25.0 |
| X | | 13.00 | 35.0 | 36.0 | 38.0 | 38.5 | 38.0 | 38.0 | 37.0 |
| | | 17.00 | 29.5 | 29.0 | 29.0 | 32.0 | 31.0 | 29.0 | 29.0 |
| | 20-01-94 | 07.00 | 25.0 | 26.0 | 24.5 | 24.0 | 24.0 | 26.0 | 25.0 |
| XI | | 13.00 | 37.0 | 38.0 | 38.5 | 38.0 | 38.0 | 38.0 | 37.0 |
| | | 17.00 | 29.5 | 30.0 | 30.0 | 29.0 | 30.0 | 31.0 | 30.0 |
| | 27-01-94 | 07.00 | 25.5 | 24.0 | 24.0 | 25.0 | 25.0 | 24.0 | 25.0 |
| XII | | 13.00 | 38.0 | 38.5 | 34.5 | 38.0 | 37.0 | 38.5 | 36.0 |
| | | 17.00 | 30.5 | 29.5 | 28.0 | 29.0 | 29.5 | 30.0 | 28.0 |

Sumber : Data Primer oleh Puji Setianingsih, Januari 1994

Lampiran 4: Data Pengamatan Suhu Tanah Pasir selama Perlakuan ($^{o}C$)

| Minggu ke | Tgl mulai | Jam | Hasil Pengukuran/Hari | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 11-11-93 | 07.00 | 27.0 | 24.5 | 25.0 | 24.0 | 25.0 | 25.5 | 25.0 |
| I | | 13.00 | 38.5 | 37.0 | 37.0 | 36.5 | 38.5 | 39.0 | 37.5 |
| | | 17.00 | 34.5 | 33.5 | 33.5 | 34.0 | 34.5 | 34.0 | 26.0 |
| | 18-11-93 | 07.00 | 25.5 | 25.0 | 25.5 | 25.5 | 25.0 | 25.5 | 25.0 |
| II | | 13.00 | 39.0 | 36.5 | 37.0 | 36.5 | 39.5 | 39.0 | 37.0 |
| | | 17.00 | 30.0 | 30.0 | 26.0 | 25.0 | 34.5 | 35.0 | 25.0 |
| | 25-11-93 | 07.00 | 25.5 | 25.0 | 26.0 | 25.5 | 25.0 | 25.0 | 25.0 |
| III | | 13.00 | 38.5 | 36.5 | 39.5 | 37.0 | 37.5 | 37.5 | 36.5 |
| | | 17.00 | 30.0 | 30.0 | 29.5 | 25.0 | 29.5 | 30.0 | 24.5 |
| | 02-12-93 | 07.00 | 25.5 | 25.5 | 25.0 | 25.0 | 25.0 | 25.5 | 25.5 |
| IV | | 13.00 | 39.5 | 39.5 | 39.5 | 39.5 | 39.0 | 36.5 | 37.0 |
| | | 17.00 | 31.0 | 30.5 | 26.5 | 26.5 | 29.5 | 25.0 | 24.5 |
| | 09-12-93 | 07.00 | 25.5 | 25.5 | 25.5 | 26.0 | 26.0 | 26.0 | 26.0 |
| V | | 13.00 | 38.5 | 39.5 | 39.0 | 37.0 | 37.0 | 36.0 | 36.0 |
| | | 17.00 | 30.5 | 30.0 | 29.5 | 29.5 | 28.5 | 27.0 | 28.5 |
| | 16-12-93 | 07.00 | 25.5 | 25.0 | 24.5 | 25.5 | 24.5 | 25.0 | 25.5 |
| VI | | 13.00 | 39.0 | 39.5 | 39.0 | 38.0 | 37.0 | 38.0 | 39.0 |
| | | 17.00 | 33.5 | 35.0 | 34.0 | 30.0 | 29.0 | 28.5 | 33.0 |
| | 23-12-93 | 07.00 | 24.5 | 24.0 | 23.5 | 24.5 | 25.5 | 25.5 | 25.5 |
| VII | | 13.00 | 39.0 | 38.5 | 39.0 | 39.0 | 38.5 | 39.0 | 39.0 |
| | | 17.00 | 30.0 | 29.5 | 29.5 | 29.0 | 29.0 | 29.0 | 29.0 |
| | 30-12-93 | 07.00 | 25.5 | 25.0 | 24.5 | 25.5 | 25.5 | 25.0 | 24.5 |
| VIII | | 13.00 | 39.5 | 37.0 | 36.5 | 38.5 | 38.5 | 39.0 | 38.0 |
| | | 17.00 | 28.0 | 30.0 | 28.5 | 26.0 | 27.5 | 29.0 | 27.5 |
| | 06-01-94 | 07.00 | 25.5 | 25.0 | 25.5 | 25.5 | 25.5 | 25.0 | 25.5 |
| IX | | 13.00 | 39.0 | 38.0 | 39.0 | 39.0 | 39.5 | 38.0 | 37.0 |
| | | 17.00 | 29.0 | 28.0 | 30.0 | 28.0 | 29.0 | 27.0 | 28.5 |
| | 13-01-94 | 07.00 | 25.5 | 25.0 | 25.5 | 26.0 | 25.5 | 26.0 | 25.5 |
| X | | 13.00 | 35.5 | 37.0 | 38.5 | 39.5 | 39.0 | 39.0 | 38.0 |
| | | 17.00 | 39.0 | 28.5 | 29.5 | 30.0 | 20.0 | 28.5 | 28.5 |
| | 20-01-94 | 07.00 | 25.5 | 26.5 | 25.0 | 24.5 | 25.0 | 26.5 | 26.0 |
| XI | | 13.00 | 38.0 | 39.0 | 39.5 | 38.0 | 38.5 | 39.0 | 38.5 |
| | | 17.00 | 29.0 | 29.5 | 29.5 | 28.0 | 29.0 | 30.0 | 29.5 |
| | 27-01-94 | 07.00 | 26.0 | 25.0 | 25.0 | 25.5 | 25.5 | 25.0 | 25.5 |
| XII | | 13.00 | 39.0 | 39.5 | 35.5 | 38.5 | 38.0 | 39.0 | 37.0 |
| | | 17.00 | 30.0 | 29.0 | 27.5 | 28.5 | 28.5 | 29.5 | 27.0 |

Sumber : Data Primer oleh Puji Setianingsih, Januari 1994

Lampiran 5 : Data Pengamatan pH Tanah

| Minggu | pH Tanah Lanau-liat Berpasir | pH Tanah Pasir |
|---|---|---|
| 1 | 6,4 | 6,6 |
| 2 | 6,4 | 6,6 |
| 3 | 6,4 | 6,6 |
| 4 | 6,4 | 6,6 |
| 5 | 6,4 | 6,6 |
| 6 | 6,4 | 6,6 |
| 7 | 6,4 | 6,6 |
| 8 | 6,4 | 6,6 |
| 9 | 6,4 | 6,6 |
| 10 | 6,4 | 6,6 |
| 11 | 6,4 | 6,6 |
| 12 | 6,4 | 6,6 |

Sumber : Data Primer oleh Puji Setianingsih, Januari 1994

Lampiran 6 : Perhitungan Analisa Variasi Kandungan Klorofil a Daun

Tabel 11 : Hasil Pengukuran Kandungan Klorofil a Daun (mg)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 0,8034 | 0,79317 | 0,79852 | 2,39509 | 0,7984 |
| | $P_1$ | 0,84479 | 0,83944 | 0,84432 | 2,52855 | 0,84285 |
| | $P_2$ | 0,90617 | 0,90129 | 0,91246 | 2,71992 | 0,90664 |
| | $P_3$ | 0,97384 | 0,97966 | 0,98454 | 2,93804 | 0,97935 |
| Tanah Pasir | $P_0$ | 0,64807 | 0,68899 | 0,5804 | 1,91746 | 0,63915 |
| | $P_1$ | 0,6476 | 0,64807 | 0,66853 | 1,9642 | 0,65473 |
| | $P_2$ | 0,70457 | 0,7148 | 0,71527 | 2,13464 | 0,71155 |
| | $P_3$ | 0,73573 | 0,68946 | 0,74061 | 2,1658 | 0,72193 |
| Jumlah | | | | | 18,7637 | |

$$FK = \frac{Tijk^2}{rmn}$$

$$= \frac{18,7637^2}{24}$$

$$= 14,66985157$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (0,8034^2+0,79317^2+0,79852^2+....+0,74061^2)-$$

$$14,66985157$$

$$= 0,319031749$$

$$JK\ perlakuan = TAB^2 - FK$$

$$= \frac{2,39509^2+2,52855^2+2,71992^2+....+2,1658^2)}{3} -$$

$$14,66985157$$

$$= 8,157614.10^{-3}$$

$$JK\ tanah = \frac{TA^2}{rn} - FK$$

$$= \frac{(10,5816^2+8,1821^2)}{12} - 14,66985157$$

$$= 0,23990001$$

$$\text{JK pupuk} = \frac{TB^2}{rm} - FK$$

$$= \frac{(4,31255^2+4,49275^2+4,85456^2+5,10384^2)}{6} -$$

$$14,666985157$$

$$= 0,06328603$$

$$\text{JK interaksi} = \text{JK perlakuan} - \text{JK media} - \text{JK pupuk}$$

$$= 0,310874135 - 0,23990001 - 0,06328603$$

$$= 7,688095.10^{-3}$$

Tabel 12 : Anova Kandungan Klorofil a Daun

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 0,310874135 | 0,04441059 | 87,105** | 2,66 | 4,03 |
| Tanah | 1 | 0,23990001 | 0,23990001 | 470,53** | 4,49 | 8,53 |
| Pupuk | 3 | 0,06328603 | 0,021095343 | 41,37** | 3,24 | 5,29 |
| Interaksi | 3 | $7,688095.10^{-3}$ | $2,5626983.10^{-3}$ | 5,026* | 3,24 | 5,29 |
| Galat | 16 | $8,157614.10^{-3}$ | $5,0985087.10^{-4}$ | | | |
| Total | 23 | 0,319031749 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)
*Berbeda nyata (F hitung > F tabel pada taraf kesalahan 5%)

Lampiran 7 : Perhitungan Uji Beda Nyata Terkecil Kandungan Klorofil a Daun

$$BNT_{(0,05)}\text{tanah} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2x\ 5,0985087.10^{-4}}{12}}$$

$$= 0,0195$$

$$BNT_{(0,05)}\text{pupuk} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 5,0985087.10.^{-4}}{6}}$$

$$= 0,02764$$

$$BNT_{(0,05)}\text{interaksi} = t_{(0,05)(16)} \times \sqrt[r]{2KTG}$$

$$= 2,12 \times \sqrt{\frac{2 \times 5,0985087.10.^{-4}}{3}}$$

$$= 0,039$$

Tabel 13 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau Liat Berpasir |
| 0,68184<br>0,8818 | -<br>0,19996* | - |

Keterangan : * = ada beda nyata

Tabel 14 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 0,71876 | - | | | |
| 0,74879 | 0,03003* | - | | |
| 0,86909 | 0,09033* | 0,0603* | - | |
| 0,85064 | 0,13188* | 0,10185* | 0,04074* | - |

Keterangan : * = ada beda nyata

Tabel 15 : Uji BNT Kombinasi Perlakuan antara Jenis tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 0,63915 | - | | | | | | | |
| 0,65473 | 0,01558 | - | | | | | | |
| 0,71155 | 0,0724* | 0,05682* | - | | | | | |
| 0,72193 | 0,08278* | 0,0672* | 0,01038 | - | | | | |
| 0,7984 | 0,15925* | 0,14367* | 0,08685* | 0,07647* | - | | | |
| 0,84285 | 0,20379* | 0,18812* | 0,1913* | 0,12092* | 0,04445* | - | | |
| 0,90664 | 0,26749* | 0,25191* | 0,19509* | 0,18471* | 0,10824* | 0,06379* | - | |
| 0,97935 | 0,3402* | 0,32462* | 0,2678* | 0,25742* | 0,18095* | 0,1365* | 0,07271* | - |

Keterangan : * = ada beda nyata

Lampiran 8: Perhitungan Analisa Variasi Kandungan Klorofil b Daun

Tabel 16 : Hasil Pengukuran Kandungan klorofil b Daun (mg)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 0,26975 | 0,2637 | 0,2623 | 0,79575 | 0,26525 |
| | $P_1$ | 0,2851 | 0,2865 | 0,29395 | 0,86555 | 0,2855 |
| | $P_2$ | 0,3214 | 0,31395 | 0,3023 | 0,93765 | 0,31255 |
| | $P_3$ | 0,3386 | 0,32835 | 0,3358 | 1,00275 | 0,33425 |
| Tanah Pasir | $P_0$ | 0,2144 | 0,2386 | 0,1972 | 0,6502 | 0,21673 |
| | $P_1$ | 0,22325 | 0,2144 | 0,2265 | 0,66415 | 0,22138 |
| | $P_2$ | 0,24325 | 0,2493 | 0,24045 | 0,733 | 0,24433 |
| | $P_3$ | 0,25255 | 0,22975 | 0,26 | 0,7423 | 0,2474 |
| Jumlah | | | | | 6,39135 | |

$$FK = \frac{Tijk^2}{rmn}$$

$$= \frac{6,39135^2}{24}$$

$$= 1,702056451$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (0,26975^2+0,2637^2+0,2623^2+....+0,24045^2) - 1,702056451$$

$$= 0,039490781$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{0,79575^2+0,86555^2+0,93765^2+....+0,7423^2)}{3} - 1,702056451$$

$= 0,037691383$

JK galat $=$ Jk total $-$ JK perlakuan

$= 0,039490781 - 0,037691383$

$= 1,7993985.10^{-3}$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(3,6017^2+2,78965^2)}{12} - 1,702056451$

$= 0,02747605$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(1,44595^2+1,5297^2+1,67065^2+1,74505^2)}{6}$

$1,702056451$

$= 9,1142851.10^{-3}$

JK interaksi $=$ JK perlakuan $-$ JK media $-$ JK pupuk

$= 0,037691383 - 0,02747605 - 9,1142851.10^{-3}$

$= 1,1010479.10^{-3}$

Tabel 17 : Anova Kandungan Klorofil b Daun

| Sumber Keragaman | DB | JK | KT | F hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 0,037691383 | $5,3844832.10^{-3}$ | $47,88^{**}$ | 2,66 | 4,03 |
| Tanah | 1 | 0,02747605 | 0,02747605 | $244,31^{**}$ | 4,49 | 8,53 |
| Pupuk | 3 | $9,1142851.10^{-3}$ | $3,038095.10^{-3}$ | $27,01^{**}$ | 3,24 | 5,29 |
| Interaksi | 3 | $1,1010479.10^{-3}$ | $3,6701586.10^{-4}$ | $3,20^{*}$ | 3,24 | 5,29 |
| Galat | 16 | $1,7993985.10^{-3}$ | $1,124624.10^{-4}$ | | | |
| Total | 23 | 0,039490781 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

*Berbeda nyata (F hitung > F tabel pada taraf kesalahan 5%)

Lampiran 9: Perhitungan Uji Beda Nyata Terkecil Kandungan Klorofil b Daun

$$BNT_{(0,05)}\text{tanah} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,124624.10^{-4}}{12}}$$

$$= 0,0092$$

$$BNT_{(0,05)}\text{ pupuk} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,124624.10^{-4}}{6}}$$

$$= 0,01298$$

$$BNT_{(0,05)}\text{interaksi} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,124624.10^{-4}}{3}}$$

$$= 0,0183$$

Tabel 18 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau Liat Berpasir |
| 0,23247 | - | |
| 0,30014 | 0,06767* | - |

Keterangan : * = ada beda nyata

Tabel 19 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 0,24099 | - | | | |
| 0,25495 | 0,01396* | - | | |
| 0,27844 | 0,03745* | 0,02348* | - | |
| 0,29084 | 0,04985* | 0,03589* | 0,0124 | - |

Keterangan : * = ada beda nyata

Tabel 20 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 0,21679 | - | | | | | | | |
| 0,22138 | 0,00465 | - | | | | | | |
| 0,24493 | 0,0276* | 0,02295* | - | | | | | |
| 0,2474 | 0,03067* | 0,02602* | 0,00307 | - | | | | |
| 0,26525 | 0,04852* | 0,04387* | 0,02092* | 0,01785 | - | | | |
| 0,2885 | 0,07177* | 0,06712* | 0,04417* | 0,0411* | 0,0295* | - | | |
| 0,31255 | 0,09582* | 0,09117* | 0,06822* | 0,06515* | 0,0479* | 0,02405* | - | |
| 0,33425 | 0,11752* | 0,11287* | 0,08992* | 0,08685* | 0,069* | 0,04575* | 0,0217* | - |

Keterangan : * = ada beda nyata

Lampiran 10: Perhitungan Analisa Variasi untuk Jumlah Daun

Tabel 21 : Hasil Perhitungan Jumlah Daun

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 24 | 22 | 26 | 72 | 24 |
| | $P_1$ | 26 | 26 | 29 | 81 | 27 |
| | $P_2$ | 29 | 32 | 29 | 90 | 30 |
| | $P_3$ | 38 | 34 | 40 | 112 | 37,33 |
| Tanah Pasir | $P_0$ | 17 | 16 | 17 | 50 | 16,67 |
| | $P_1$ | 17 | 18 | 19 | 54 | 18 |
| | $P_2$ | 21 | 20 | 22 | 63 | 21 |
| | $P_3$ | 22 | 20 | 22 | 64 | 21,3 |
| Jumlah | | | | | 586 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{586^2}{24}$$

$$= 14308,16667$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (24^2 + 22^2 + 26^2 + \ldots + 22^2) - 14308,16667$$

$$= 1027,83333$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(72^2 + 81^2 + 90^2 + \ldots + 64^2)}{3} - 14308,16667$$

$$= 981,83333$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$$= 1027.83333 - 981,83333$$

$$= 46$$

$$\text{JK tanah} = \frac{TA^2}{rn} - FK$$

$$= \frac{(355^2 + 231^2)}{12} - 14308,16667$$

$$= 640,666663$$

$$\text{JK pupuk} = \frac{TB^2}{rm} - FK$$

$$= \frac{(122^2 + 135^2 + 153^2 + 176^2)}{6} - 14308,16667$$

$$= 274,166663$$

JK interaksi = JK perlakuan - JK media - JK pupuk

= 981,83333 - 640,666663 - 274,166663

= 67,000004

Tabel 22 : Anova Jumlah Daun

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 981,83333 | 146,2619043 | 48,79** | 2,66 | 4,03 |
| Tanah | 1 | 640,666663 | 640,666663 | 222,84** | 4,49 | 8,53 |
| Pupuk | 3 | 274,166663 | 91,333 | 31,79** | 3,24 | 5,29 |
| Interaksi | 3 | 67,000004 | 22,33333467 | 7,77** | 3,24 | 5,29 |
| Galat | 16 | 46 | 2,875 | | | |
| Total | 23 | 1027,83333 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 11: Perhitungan Uji Beda Nyata Terkecil Jumlah Daun

$$BNT_{(0,05)}\text{tanah} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 2,875}{12}}$$

$$= 1,4675$$

$$BNT_{(0,05)}\ \text{pupuk} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 2,875}{6}}$$

$$= 2,075$$

$$BNT_{(0,05)}\text{interaksi} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 2,875}{3}}$$

$$= 2,935$$

Tabel 23 : Uji BNT antar Perlakuan Jenis Tanah :

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau Liat Berpasir |
| 19,25 | - | |
| 29,5833 | 10,3333* | - |

Keterangan : * = ada beda nyata

Tabel 24 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 20,33 | - | | | |
| 22,5 | 2,17* | - | | |
| 25,5 | 5,17* | 3* | - | |
| 29,33 | 9* | 6,83* | 3,83* | - |

Keterangan : * = ada beda nyata

Tabel 25 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 16,67 | - | | | | | | | |
| 18 | 1,33 | - | | | | | | |
| 21 | 4,33* | 3* | - | | | | | |
| 21,3 | 4,63 | 3,3* | 0,3 | - | | | | |
| 24 | 7,33* | 6* | 3* | 2,7 | - | | | |
| 27 | 10,33* | 9* | 6* | 5,7* | 3* | - | | |
| 30 | 13,33* | 12* | 9* | 8,7* | 6* | 3* | - | |
| 37,33 | 20,66* | 19,33* | 16,33* | 16,03* | 13,33* | 10,33* | ,33* | - |

Keterangan : * = ada beda nyata

Lampiran 12: Perhitungan Analisa Variasi untuk Panjang Daun

Tabel 26 : Hasil Pengukuran Panjang Daun (cm)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 15,07 | 15,47 | 14,95 | 45,49 | 15,1633 |
| | $P_1$ | 16,95 | 17,53 | 17,57 | 52,05 | 17,35 |
| | $P_2$ | 19,33 | 19,63 | 18,43 | 57,39 | 19,13 |
| | $P_3$ | 20,48 | 19,83 | 20,74 | 61,05 | 20,35 |
| Tanah Pasir | $P_0$ | 10,53 | 10,33 | 10,6 | 31,46 | 10,4867 |
| | $P_1$ | 11,23 | 10,93 | 11,15 | 33,31 | 11,1033 |
| | $P_2$ | 12,43 | 11,35 | 14,13 | 37,91 | 12,6367 |
| | $P_3$ | 13,13 | 12,53 | 12,63 | 38,29 | 12,7633 |
| Jumlah | | | | | 356,95 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{356,95^2}{24}$$

$$= 5308,887604$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (15,07^2 + 15,47^2 + 14,95^2 + \ldots + 12,63^2) - 5308,887604$$

$$= 297,555696$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(45,49^2 + 52,05^2 + 57,39^2 + \ldots + 38,29^2)}{3} - 5308,887604$$

$$= 291,7247626$$

JK galat = JK total - JK perlakuan

= 297,555696 - 291,7247626

= 5,8309334

JK tanah = $\frac{TA^2}{rn}$ - FK

= $\frac{(215,98^2 + 140,97^2)}{12}$ - 5308,887604

= 234,4375043

JK pupuk = $\frac{TB^2}{rm}$ - FK

= $\frac{(76,95^2 + 85,36^2 + 95,3^2 + 99,34^2)}{6}$ -

5308,887604

= 6,4819123

JK interaksi = JK perlakuan - JK media - JK pupuk

= 291,7247626 - 234,4375043 - 50,805346

= 6,4819123

Tabel 27 : Anova Panjang Daun

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 291,7247626 | 41,67496609 | 114,36** | 2,66 | 4,03 |
| Tanah | 1 | 234,4375043 | 234,4375043 | 643,29** | 4,49 | 8,53 |
| Pupuk | 3 | 50,805346 | 16,93511533 | 46,47** | 3,24 | 5,29 |
| Interaksi | 3 | 6,4819123 | 2,160637433 | 5,93** | 3,24 | 5,29 |
| Galat | 16 | 5,8309334 | 0,364433337 | | | |
| Total | 23 | 297,555696 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 13: Perhitungan Uji Beda Nyata Terkecil Panjang Daun

$$BNT_{(0,05)}\ tanah = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,364433337}{12}}$$

$$= 0,5225$$

$$BNT_{(0,05)}\ pupuk = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,364433337}{6}}$$

$$= 0,7389$$

$$BNT_{(0,05)}\ interaksi = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,364433337}{3}}$$

$$= 1,04496$$

Tabel 28 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau Liat Berpasir |
| 11,7475<br>17,9983 | -<br>6,2508* | - |

Keterangan : * = ada beda nyata

Tabel 29 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 12,82 | - | | | |
| 14,2267 | 1,4067* | - | | |
| 15,8833 | 3,0633* | 1,6566* | - | |
| 16,5567 | 3,7367* | 2,33* | 0,6734 | - |

Keterangan : * = ada beda nyata

Tabel 30 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 10,4867 | - | | | | | | | |
| 11,1033 | 0,6166 | - | | | | | | |
| 12,6367 | 2,15* | 1,5334* | - | | | | | |
| 12,7633 | 2,2766* | 1,66* | 0,1266 | - | | | | |
| 15,1633 | 4,6766* | 4,06* | 2,5266* | 2,4* | - | | | |
| 17,35 | 6,8633* | 6,2467* | 4,7133* | 4,5867* | 2,1867* | - | | |
| 19,13 | 8,6433* | 8,0267* | 6,4933* | 6,3667* | 3,9667* | 1,78* | - | |
| 20,35 | 9,8633* | 9,2467* | 7,7133* | 7,5867* | 5,1867* | 3* | 1,22* | - |

Keterangan : * = ada beda nyata

Lampiran 14: Perhitungan Analisa Variasi untuk Berat Basah Daun

Tabel 31 : Hasil Penimbangan Berat Basah Daun (gr)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 16,8 | 16,85 | 16,95 | 50,6 | 16,87 |
| | $P_1$ | 18,8 | 19,35 | 22,5 | 60,65 | 20,22 |
| | $P_2$ | 25,75 | 23,8 | 24,85 | 74,4 | 24,8 |
| | $P_3$ | 34,89 | 31,8 | 36,25 | 102,94 | 34,3 |
| Tanah Pasir | $P_0$ | 7,65 | 8,55 | 6,9 | 23,1 | 7,7 |
| | $P_1$ | 7,95 | 8,25 | 8,35 | 24,55 | 8,1833 |
| | $P_2$ | 10,65 | 10,35 | 11,45 | 32,45 | 10,8167 |
| | $P_3$ | 12,95 | 10,8 | 11,25 | 35 | 11,6667 |
| Jumlah | | | | | 403,69 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{403,69^2}{24}$$

$$= 6790,234004$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (16,8^2 + 16,85^2 + 16,95^2 + \ldots + 11,25^2) - 6790,234004$$

$$= 1829,758096$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(50,6^2 + 60,65^2 + 74,4^2 + \ldots + 35^2)}{3} - 6790,234004$$

$$= 1804,799696$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$= 1829,758096 - 1804,799696$

$= 24,9584$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(288,59^2 + 115,1^2)}{12} - 6790,234004$

$= 1254,115838$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(73,71^2 + 85,2^2 + 106,85^2 + 137,94^2)}{6} -$

$6790,234004$

$= 398,9486793$

JK interaksi = JK perlakuan - JK media - JK pupuk

$= 1804,799696 - 1254,115838 - 398,9486793$

$= 151,7324427$

Tabel 32 : Anova Berat Basah Daun

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 1804,799696 | 257,828528 | 165,28** | 2,66 | 4,03 |
| Tanah | 1 | 1254,115838 | 1254,115838 | 803,97** | 4,49 | 8,53 |
| Pupuk | 3 | 398,9486793 | 132,9828931 | 85,25** | 3,24 | 5,29 |
| Interaksi | 3 | 151,7324427 | 50,5774809 | 32,42** | 3,24 | 5,29 |
| Galat | 16 | 24,9584 | 1,5599 | | | |
| Total | 23 | 1829,758096 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 15: Perhitungan Uji Beda Nyata Terkecil Berat Basah Daun

$$BNT_{(0,05)}\ tanah = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,5599}{12}}$$

$$= 1,081$$

$$BNT_{(0,05)}\ pupuk = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,21 \times \sqrt{\frac{2 \times 1,5599}{6}}$$

$$= 1,5287$$

$$BNT_{(0,05)}\ interaksi = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,5598}{3}}$$

$$= 2,162$$

Tabel 33 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau Liat Berpasir |
| 9,5917<br>20,0492 | -<br>14,4575* | - |

Keterangan : * = ada beda nyata

Tabel 34 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 12,285 | - | | | |
| 14,20 | 1,915* | - | | |
| 17,808 | 5,523* | 3,608* | - | |
| 22,99 | 10,705* | 8,79* | 5,182* | - |

Keterangan : * = ada beda nyata

Tabel 35 :Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 7,7 | - | | | | | | | |
| 8,1833 | 0,4833 | - | | | | | | |
| 10,817 | 3,117* | 2,6337* | - | | | | | |
| 11,6667 | 3,9667* | 3,4834* | 0,8497 | - | | | | |
| 16,87 | 9,17* | 8,6867* | 6,053* | 5,2033* | - | | | |
| 20,22 | 12,52* | 12,0967* | 9,403* | 8,5533* | 3,35* | - | | |
| 24,8 | 17,1* | 16,6167* | 13,983* | 13,1333* | 7,93* | 4,58* | - | |
| 34,3 | 26,6* | 26,1167* | 23,483* | 22,6333* | 17,49* | 14,08* | 9,5* | - |

Keterangan : * = ada beda nyata

Lampiran 16 : Perhitungan Analisa Variasi untuk Tinggi Tanaman

Tabel 36 : Hasil Pengukuran Tinggi Tanaman (cm)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 44,3 | 44,8 | 46,2 | 135,3 | 45,1 |
| | $P_1$ | 46,5 | 47,05 | 48,3 | 141,85 | 47,283 |
| | $P_2$ | 49,95 | 49,2 | 49,2 | 148,55 | 49,517 |
| | $P_3$ | 54,2 | 53,35 | 55,65 | 163,2 | 54,4 |
| Tanah Pasir | $P_0$ | 40,1 | 39,15 | 40,6 | 119,85 | 39,95 |
| | $P_1$ | 40,6 | 39,95 | 41,9 | 122,45 | 40,817 |
| | $P_2$ | 42,5 | 41,65 | 43,7 | 127,85 | 42,62 |
| | $P_3$ | 42,45 | 42,8 | 43,5 | 128,75 | 42,92 |
| Jumlah | | | | | 1087,8 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{1087,8^2}{24}$$

$$= 49304,535$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (44,3^2 + 44,8^2 + 46,2^2 + \ldots + 43,5^2) - 49304,535$$

$$= 510,885$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(135,3^2 + 141,85^2 + 148,55^2 + \ldots + 128,75^2)}{3} -$$

$$49304,535$$

$$= 498,486666$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$= 510,885 - 498,486666$

$= 12,398334$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(588,9^2 + 498,9^2)}{12} - 49304,535$

$= 337,5$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(255,15^2 + 264,3^2 + 276,4^2 + 291,95^2)}{6} -$

$49304,535$

$= 126,760833$

JK interaksi = JK perlakuan - JK media - JK pupuk

$= 498,486666 - 337,5 - 126,760833$

$= 34,225833$

Tabel 37 : Anova Tinggi Tanaman

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 498,486666 | 71,21238086 | 91,899** | 2,66 | 4,03 |
| Tanah | 1 | 337,5 | 337,5 | 435,54** | 4,49 | 8,53 |
| Pupuk | 3 | 126,760833 | 42,453611 | 54,528** | 3,24 | 5,29 |
| Interaksi | 3 | 34,225833 | 11,408611 | 14,723** | 3,24 | 5,29 |
| Galat | 16 | 12,398334 | 0,774895875 | | | |
| Total | 23 | 510,885 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 17: Perhitungan Uji Beda Nyata Terkecil Tinggi Tanaman

$$BNT_{(0,05)}\,tanah = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,774895875}{12}}$$

$$= 0,7619$$

$$BNT_{(0,05)}\ pupuk = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,774895875}{6}}$$

$$= 1,077$$

$$BNT_{(0,05)}\,interaksi = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,774895875}{3}}$$

$$= 1,5237$$

Tabel 38 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau-Liat Berpasir |
| 41,575 | - | |
| 49,075 | 7,5* | - |

Keterangan : * = ada beda nyata

Tabel 39 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 42,525 | - | | | |
| 44,05 | 1,525* | - | | |
| 46,067 | 3,542* | 2,017* | - | |
| 48,66 | 6,135* | 4,61* | 2,593* | - |

Keterangan : * = ada beda nyata

Tabel 40 : Uji BNT Kombinasi Perlakuan Antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 39,95 | - | | | | | | | |
| 40,817 | 0,867 | - | | | | | | |
| 42,62 | 2,67* | 1,803* | - | | | | | |
| 42,92 | 2,97* | 2,103* | 0,3 | - | | | | |
| 45,1 | 5,15* | 4,283* | 2,48* | 2,18* | - | | | |
| 47,283 | 7,333* | 6,466* | 4,663* | 4,363* | 2,183* | - | | |
| 49,517 | 9,567* | 8,7* | 6,897* | 6,597* | 4,417* | 2,234* | - | |
| 54,4 | 14,45* | 13,583* | 11,78* | 11,48* | 9,3* | 7,117* | 4,883* | - |

Keterangan : * = ada beda nyata

Lampiran 18: Perhitungan Analisa Variasi untuk Berat Basah Batang

Tabel 41 : Hasil Penimbangan Berat Basah Batang (gr)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 18,85 | 17,65 | 20,8 | 57,3 | 19,1 |
| | $P_1$ | 29,35 | 28,85 | 27,45 | 85,65 | 28,55 |
| | $P_2$ | 35,9 | 34,7 | 36,5 | 107,1 | 35,7 |
| | $P_3$ | 41,55 | 40,05 | 43,25 | 124,85 | 41,62 |
| Tanah Pasir | $P_0$ | 6,4 | 7,6 | 8,1 | 22,1 | 7,37 |
| | $P_1$ | 8,45 | 7,8 | 8 | 24,25 | 8,08 |
| | $P_2$ | 10,55 | 9,05 | 11,9 | 31,5 | 10,5 |
| | $P_3$ | 11,85 | 10,75 | 11,1 | 33,7 | 11,2 |
| Jumlah | | | | | 486,45 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{486,45^2}{24}$$

$$= 9859,733438$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (18,85^2 + 17,65^2 + 20,8^2 + \ldots + 11,1^2) - 9859,733438$$

$$= 3787,699062$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(57,3^2 + 85,65^2 + 107,1^2 + \ldots + 33,7^2)}{3} - 9859,733438$$

$$= 3767,452395$$

JK galat = JK total − JK perlakuan

= 3787,699062 − 3767,452395

= 20,246667

$$\text{JK tanah} = \frac{TA^2}{rn} - FK$$

$$= \frac{(374,9^2 + 111,55^2)}{12} - 9859,733438$$

= 2889,717603

$$\text{JK pupuk} = \frac{TB^2}{rm} - FK$$

$$= \frac{(79,4^2 + 109,9^2 + 138,6^2 + 158,55^2)}{6} - 9859,733438$$

= 595,338645

JK interaksi = JK perlakuan − JK tanah − JK pupuk

= 3767,452395 − 2889,717603 − 595,338645

= 282,396147

Tabel 42 : Anova Berat Basah Batang

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 3767,452395 | 538,207485 | 425,32** | 2,66 | 4,03 |
| Tanah | 1 | 2889,717603 | 2889,717603 | 2283,6** | 4,49 | 8,53 |
| Pupuk | 3 | 595,338645 | 198,446215 | 156,82** | 3,24 | 5,29 |
| Interaksi | 3 | 282,396147 | 94,132049 | 74,39** | 3,24 | 5,29 |
| Galat | 16 | 20,246667 | 1,265416688 | | | |
| Total | 23 | 3787,699062 | | | | |

Keterangan : ** Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 19: Perhitungan Uji Beda Nyata Terkecil Berat Basah Batang

$$BNT_{(0,05)}\ tanah = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,265416688}{12}}$$

$$= 0,9736$$

$$BNT_{(0,05)}\ pupuk = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,265416688}{6}}$$

$$= 1,3769$$

$$BNT_{(0,05)}\ interaksi = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 1,265416688}{3}}$$

$$= 1,9472$$

Tabel 43 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau-Liat Berpasir |
| 9,2958 | - | |
| 31,2417 | 21,9459* | - |

Keterangan : * = ada beda nyata

Tabel 44 : Uji BNT Antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 13,233 | - | | | |
| 18,317 | 5,084* | - | | |
| 23,1 | 9,867* | 4,783* | - | |
| 26,425 | 13,192* | 8,108* | 3,325* | - |

Keterangan : * = ada beda nyata

Tabel 45 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea :

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 7,37 | - | | | | | | | |
| 8,08 | 0,71 | - | | | | | | |
| 10,5 | 3,13* | 2,42* | - | | | | | |
| 11,2 | 3,83* | 3,12* | 0,7 | - | | | | |
| 19,1 | 11,73* | 11,02* | 8,6* | 7,9* | - | | | |
| 28,55 | 21,18* | 20,47* | 18,05* | 17,35* | 9,45* | - | | |
| 35,7 | 28,33* | 27,62* | 25,2* | 24,5* | 16,6* | 7,15* | - | |
| 41,62 | 34,25* | 33,54* | 31,12* | 30,42* | 22,52* | 13,07* | 5,92* | - |

Keterangan : * = ada beda nyata

Lampiran 20 : Perhitungan Analisa Variasi untuk Berat Kering Batang

Tabel 46 : Hasil Penimbangan Berat Kering Batang (gr)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 1,95 | 1,8 | 2,1 | 5,85 | 1,95 |
| | $P_1$ | 3,05 | 2,9 | 2,9 | 8,85 | 2,95 |
| | $P_2$ | 3,6 | 3,5 | 3,75 | 10,85 | 3,62 |
| | $P_3$ | 4,2 | 4,05 | 4,35 | 12,6 | 4,2 |
| Tanah Pasir | $P_0$ | 0,65 | 0,8 | 0,9 | 2,35 | 0,78 |
| | $P_1$ | 0,85 | 0,8 | 0,85 | 2,5 | 0,83 |
| | $P_2$ | 1,15 | 0,9 | 1,2 | 3,25 | 1,08 |
| | $P_3$ | 1,2 | 1,1 | 1,15 | 3,45 | 1,15 |
| Jumlah | | | | | 49,7 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{49,7^2}{24}$$

$$= 102,9204167$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (1,95^2 + 1,8^2 + 2,1^2 + \ldots + 1,15^2) - 102,9204167$$

$$= 38,3945833$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(5,85^2 + 8,85^2 + 10,85^2 + \ldots + 3,45^2)}{3} - 102,9204167$$

$$= 38,16791663$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$$= 38,3945833 - 38,16791663$$

$= 0,22666667$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(38,15^2 + 11,55^2)}{12} - 102,9204167$

$= 29,48166663$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(8,2^2 + 11,95^2 + 14,1^2 + 16,05^2)}{6} - 102,9204167$

$= 5,82541663$

JK interaksi = JK perlakuan − JK tanah − JK pupuk

$= 38,16791663 - 29,48166663 - 5,82541663$

$= 2,86083337$

Tabel 47 : Anova Berat Kering Batang

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 38,16791663 | 5,452559519 | 384,89** | 2,66 | 4,03 |
| Tanah | 1 | 29,48166663 | 29,48166663 | 2081,06** | 4,49 | 8,53 |
| Pupuk | 3 | 5,82541663 | 1,941805543 | 137,07** | 3,24 | 5,29 |
| Interaksi | 3 | 2,86083337 | 0,953611123 | 67,31** | 3,24 | 5,29 |
| Galat | 16 | 0,22666667 | 0,014166666 | | | |
| Total | 23 | 38,3945833 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 21: Perhitungan Uji Beda Nyata Terkecil Berat Kering Batang

$$BNT_{(0,05)}\ tanah = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,014166666}{12}}$$

$$= 0,103$$

$$BNT_{(0,05)}\ pupuk = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,014166666}{6}}$$

$$= 0,1457$$

$$BNT_{(0,05)}\ interaksi = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,014166666}{3}}$$

$$= 0,2060$$

Tabel 48 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau-Liat Berpasir |
| 0,96 | - | |
| 3,18 | 2,22* | - |

Keterangan : * = ada beda nyata

Tabel 49 : Uji BNT antar Perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 1,367 | - | | | |
| 1,89 | 0,523* | - | | |
| 2,35 | 0,983* | 0,46* | - | |
| 2,675 | 1,308* | 0,785* | 0,325* | - |

Keterangan : * = ada beda nyata

Tabel 50 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 0,78 | - | | | | | | | |
| 0,83 | 0,05 | - | | | | | | |
| 1,08 | 0,3* | 0,25* | - | | | | | |
| 1,15 | 0,37* | 0,32* | 0,07 | - | | | | |
| 1,95 | 1,17* | 1,12* | 0,87* | 0,8* | - | | | |
| 2,95 | 2,17* | 2,12* | 1,87* | 1,8* | 1* | - | | |
| 3,62 | 2,84* | 2,79* | 2,54* | 2,47* | 1,67* | 0,67* | - | |
| 4,2 | 3,42* | 3,97* | 3,12* | 3,12* | 3,05* | 1,25* | 0,58* | - |

Keterangan : * = ada beda nyata

Lampiran 22: Perhitungan Analisa Variasi untuk Berat Basah Rimpang

Tabel 51 : Hasil Penimbangan Berat Basah Rimpang (gr)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 34,5 | 30,55 | 38,2 | 103,25 | 34,4167 |
| | $P_1$ | 42,1 | 37,25 | 44,4 | 123,75 | 41,25 |
| | $P_2$ | 56,25 | 51,5 | 58,75 | 166,5 | 55,5 |
| | $P_3$ | 67,7 | 63,45 | 70,35 | 201,5 | 67,1667 |
| Tanah Pasir | $P_0$ | 20,2 | 21,65 | 22,1 | 63,95 | 21,3167 |
| | $P_1$ | 23,15 | 21 | 23,15 | 67,3 | 22,4333 |
| | $P_2$ | 28,45 | 27 | 28,65 | 84,1 | 28,033 |
| | $P_3$ | 29,9 | 27,6 | 29,75 | 87,25 | 29,0833 |
| Jumlah | | | | | 897,6 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{897,6^2}{24}$$

$$= 33570,24$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (34,5^2 + 30,55^2 + 38,2^2 + \ldots + 29,75^2) - 33570,24$$

$$= 5748,15$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(103,25^2 + 123,75^2 + 166,5^2 + \ldots + 87,25^2)}{3} - 33570,24$$

$$= 5630,89$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$= 5748,15 - 5630,89$

$= 117,26$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(595^2 + 302,6^2)}{12} - 33570,24$

$= 3562,406666$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(167,2^2 + 191,05^2 + 250,6^2 + 288,75^2)}{6} - 33570,24$

$= 1535,2375$

JK interaksi = JK perlakuan - JK tanah - JK pupuk

$= 5630,89 - 3562,406666 - 1535,2375$

$= 523,245834$

Tabel 52 : Anova Berat Basah Rimpang

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 5630,89 | 804,4128571 | 109,76** | 2,66 | 4,03 |
| Tanah | 1 | 3562,406666 | 3562,406666 | 486,09** | 4,49 | 8,53 |
| Pupuk | 3 | 1535,2375 | 511,7458333 | 69,83** | 3,24 | 5,29 |
| Interaksi | 3 | 533,245834 | 177,7486113 | 24,25** | 3,24 | 5,29 |
| Galat | 16 | 117,26 | 7,32875 | | | |
| Total | 23 | 5748,15 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 23: Perhitungan Uji Beda Nyata Terkecil Berat Basah Rimpang

$$BNT_{(0,05)}\text{tanah} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 7,32875}{12}}$$

$$= 2,3430$$

$$BNT_{(0,05)}\ \text{pupuk} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 7,32875}{6}}$$

$$= 3,3135$$

$$BNT_{(0,05)}\text{interaksi} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 7,32875}{3}}$$

$$= 4,686$$

Tabel 53 : Uji BNT antar Perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau-Liat Berpasir |
| 25,2167 | - | |
| 49,5833 | 24,3666* | - |

Keterangan : * = ada beda nyata

Tabel 54 : Uji BNT antar perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 27,8667 | - | | | |
| 31,8417 | 3,975 | - | | |
| 41,7667 | 13,9 | 9,925 | - | |
| 48,125 | 20,2583 | 16,2833 | 6,3583 | - |

Keterangan : * = ada beda nyata

Tabel 55 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 21,3167 | - | | | | | | | |
| 22,4333 | 1,1166 | - | | | | | | |
| 28,033 | 6,7169* | 5,5997* | - | | | | | |
| 29,0833 | 7,7666* | 6,65* | 1,0503 | - | | | | |
| 34,4167 | 13,1* | 11,9834* | 6,3837* | 5,3334* | - | | | |
| 41,25 | 19,9333* | 18,8167* | 13,217* | 12,1667* | 6,8333* | - | | |
| 55,5 | 34,1833* | 33,0667* | 27,467* | 26,4167* | 21,0833* | 14,25* | - | |
| 67,1667 | 45,85* | 44,7334* | 39,1337* | 38,0834* | 32,75* | 25,9167* | 11,6667* | - |

Keterangan : * = ada beda nyata

Lampiran 24: Perhitungan Analisa Variasi untuk Berat Kering Rimpang

Tabel 56 : Hasil Penimbangan Berat Kering Rimpang (gr)

| Kombinasi Perlakuan | | Ulangan | | | Jumlah | Rerata |
|---|---|---|---|---|---|---|
| Tanah | Pupuk | 1 | 2 | 3 | | |
| Tanah Lanau-Liat Berpasir | $P_0$ | 3,5 | 3,1 | 3,8 | 10,4 | 3,47 |
| | $P_1$ | 4,35 | 3,75 | 4,5 | 12,6 | 4,2 |
| | $P_2$ | 5,7 | 5,2 | 5,85 | 16,75 | 5,5833 |
| | $P_3$ | 6,75 | 6,35 | 7,05 | 20,15 | 6,7167 |
| Tanah Pasir | $P_0$ | 2,15 | 2,2 | 2,3 | 6,65 | 2,2167 |
| | $P_1$ | 2,4 | 2,15 | 2,4 | 6,95 | 2,3167 |
| | $P_2$ | 2,9 | 2,75 | 3 | 8,65 | 2,8833 |
| | $P_3$ | 3,05 | 2,8 | 3,05 | 8,9 | 2,9667 |
| Jumlah | | | | | 91,05 | |

$$FK = \frac{Tijk^2}{rm}$$

$$= \frac{91,05^2}{24}$$

$$= 345,4209375$$

$$JK\ total = T(Yijk^2) - FK$$

$$= (3,5^2 + 3,1^2 + 3,8^2 + \ldots + 3,05^2) - 345,4209375$$

$$= 55,7665625$$

$$JK\ perlakuan = \frac{TAB^2}{r} - FK$$

$$= \frac{(10,4^2 + 12,6^2 + 16,75^2 + \ldots + 8,9^2)}{3} -$$

$$345,4209375$$

$$= 54,59989583$$

$$JK\ galat = JK\ total - JK\ perlakuan$$

$$= 55,7665625 - 54,59989583$$

$= 1,16666667$

JK tanah $= \frac{TA^2}{rn} - FK$

$= \frac{(59,9^2 + 31,15^2)}{12} - 345,4209375$

$= 34,44010416$

JK pupuk $= \frac{TB^2}{rm} - FK$

$= \frac{(17,05^2 + 19,55^2 + 25,4^2 + 29,05^2)}{6} - 345,4209375$

$= 14,90697916$

JK interaksi = JK perlakuan - JK media - JK pupuk

$= 54,59989583 - 34,44010416 - 14,90697916$

$= 5,25281251$

Tabel 57 : Anova Berat Kering Rimpang

| Sumber Keragaman | DB | JK | KT | F Hitung | F Tabel 5% | F Tabel 1% |
|---|---|---|---|---|---|---|
| Perlakuan | 7 | 54,59989583 | 7,799985118 | 106,97** | 2,66 | 4,03 |
| Tanah | 1 | 34,44010416 | 34,44010416 | 472,32** | 4,49 | 8,53 |
| Pupuk | 3 | 14,90697916 | 4,968993053 | 68,15** | 3,24 | 5,29 |
| Interaksi | 3 | 5,25281251 | 1,750937503 | 24,01** | 3,24 | 5,29 |
| Galat | 16 | 1,16666667 | 0,072916666 | | | |
| Total | 23 | 55,7665625 | | | | |

Keterangan : **Berbeda sangat nyata (F hitung > F tabel pada taraf kesalahan 1%)

Lampiran 25: Perhitungan Uji Beda Nyata Terkecil Berat Kering Rimpang

$$BNT_{(0,05)}\text{tanah} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rn}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,072916666}{12}}$$

$$= 0,234$$

$$BNT_{(0,05)}\ \text{pupuk} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{rm}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,072916666}{6}}$$

$$= 0,3305$$

$$BNT_{(0,05)}\text{interaksi} = t_{(0,05)(16)} \times \sqrt{\frac{2KTG}{r}}$$

$$= 2,12 \times \sqrt{\frac{2 \times 0,072916666}{3}}$$

$$= 4,4674$$

Tabel 58 : Uji BNT antar perlakuan Jenis Tanah

| Rerata | Jenis Tanah | |
|---|---|---|
| | Tanah Pasir | Tanah Lanau-Liat Berpasir |
| 2,5958 | - | |
| 4,9917 | 2,3959* | - |

Keterangan : * = ada beda nyata

Tabel 59 : Uji BNT antar perlakuan Dosis Pupuk Urea

| Rerata | Dosis Pupuk Urea | | | |
|---|---|---|---|---|
| | $P_0$ | $P_1$ | $P_2$ | $P_3$ |
| 2,8417 | - | | | |
| 3,2583 | 0,4166* | - | | |
| 4,2333 | 1,3916* | 0,975* | - | |
| 4,8417 | 2* | 1,5834* | 0,6084* | - |

Keterangan : * = ada beda nyata

Tabel 60 : Uji BNT Kombinasi Perlakuan antara Jenis Tanah dan Dosis Pupuk Urea

| Rerata | Kombinasi Perlakuan | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $PP_0$ | $PP_1$ | $PP_2$ | $PP_3$ | $LP_0$ | $LP_1$ | $LP_2$ | $LP_3$ |
| 2,2167 | - | | | | | | | |
| 2,3167 | 0,1 | - | | | | | | |
| 2,8833 | 0,6666* | 0,5666* | - | | | | | |
| 2,9667 | 0,75* | 0,65* | 0,0834 | - | | | | |
| 3,47 | 1,2533* | 1,1533* | 0,5867* | 0,5033* | - | | | |
| 4,2 | 1,9833* | 1,8833* | 1,3167* | 1,2333* | 0,79* | - | | |
| 5,5833 | 3,3666* | 3,2666* | 2,7* | 2,6166* | 2,1133* | 1,3833* | - | |
| 6,7167 | 4,5* | 4,4* | 3,8334* | 3,75* | 3,2467* | 2,5167* | 1,1334* | - |

Keterangan : * = ada beda nyata

Lampiran 26: Hasil Pengukuran Optical Density pada Panjang Gelombang 663

| Kombinasi Perlakuan | | Ulangan | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| Tanah | Pupuk | OD 663 | OD 663 | OD 663 |
| Tanah Lanau-Liat Berpasir | $P_0$ | 0,775 | 0,765 | 0,77 |
| | $P_1$ | 0,815 | 0,81 | 0,815 |
| | $P_2$ | 0,875 | 0,87 | 0,88 |
| | $P_3$ | 0,94 | 0,945 | 0,95 |
| Tanah Pasir | $P_0$ | 0,625 | 0,665 | 0,56 |
| | $P_1$ | 0,625 | 0,625 | 0,645 |
| | $P_2$ | 0,68 | 0,69 | 0,69 |
| | $P_3$ | 0,71 | 0,665 | 0,715 |

Lampiran 27: Hasil Pengukuran Optical Density pada Panjang Gelombang 644

| Kombinasi Perlakuan | | Ulangan | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| Tanah | Pupuk | OD 644 | OD 644 | OD 644 |
| Tanah Lanau-Liat Berpasir | $P_0$ | 0,275 | 0,27 | 0,27 |
| | $P_1$ | 0,29 | 0,29 | 0,295 |
| | $P_2$ | 0,32 | 0,315 | 0,31 |
| | $P_3$ | 0,34 | 0,335 | 0,34 |
| Tanah Pasir | $P_0$ | 0,22 | 0,24 | 0,2 |
| | $P_1$ | 0,225 | 0,22 | 0,23 |
| | $P_2$ | 0,245 | 0,25 | 0,245 |
| | $P_3$ | 0,255 | 0,235 | 0,26 |

Lampiran 28: Perhitungan Kandungan Klorofil a Daun

Rumus :

mg klrofil a/gr jaringan = 1,07 (OD.663) - 0,094 (OD.644)

A. Tanah Lanau Liat Berpasir - $P_o$

1. 1,07 (0,775) - 0,094 (0,275) = 0,8034
2. 1,07 (0,765) - 0,094 (0,27) = 0,79317
3. 1,07 (0,77) - 0,094 (0,27) = 0,79852

B. Tanah Lanau Liat Berpasir - $P_1$

1. 1,07 (0,815) - 0,094 (0,29) = 0,84479
2. 1,07 (0,81) - 0,094 (0,29) = 0,83944
3. 1,07 (0,815) - 0,094 (0,295) = 0,84432

C. Tanah Lanau Liat Berpasir - $P_2$

1. 1,07 (0,875) - 0,094 (0,32) = 0,90617
2. 1,07 (0,87) - 0,094 (0,315) = 0,90129
3. 1,07 (0,88) - 0,094 (0,31) = 0,91246

D. Tanah Lanau Liat Berpasir - $P_3$

1. 1,07 (0,94) - 0,094 (0,34) = 0,97384
2. 1,07 (0,945) - 0,094 (0,335) = 0,97966
3. 1,07 (0,95) - 0,094 (0,34) = 0,98454

E. Tanah Pasir - $P_o$

1. 1,07 (0,625) - 0,094 (0,22) = 0,64807
2. 1,07 (0,665) - 0,094 (0,24) = 0,68899
3. 1,07 (0,56) - 0,094 (0,2) = 0,5804

F. Tanah Pasir - $P_1$

1. 1,07 (0,625) - 0,094 (0,225) = 0,6476
2. 1,07 (0,625) - 0,094 (0,22) = 0,64807
3. 1,07 (0,645) - 0,094 (0,23) = 0,66853

G. Tanah Pasir - $P_2$

1. 1,07 (0,68) - 0,094 (0,245) = 0,70457
2. 1,07 (0,69) - 0,094 (0,25) = 0,7148
3. 1,07 (0,69) - 0,094 (0,245) = 0,71527

H. Tanah Pasir - $P_3$

1. 1,07 (0,71) - 0,094 (0,255) = 0,73573
2. 1,07 (0,665) - 0,094 (0,235) = 0,68946
3. 1,07 (0,715) - 0,094 (0,26) = 0,74061

Lampiran 29: Perhitungan Kandungan Klorofil b Daun

Rumus :

mg klorofil b/gr jaringan = 1,77 (OD.644) - 0,28 (OD.663)

A. Tanah Lanau Liat Berpasir - $P_o$

1. 1,77 (0,275) - 0,28 (0,775) = 0,26975
2. 1,77 (0,27) - 0,28 (0,765) = 0,2637
3. 1,77 (0,27) - 0,28 (0,77) = 0,2623

B. Tanah Lanau Liat Berpasir - $P_1$

1. 1,77 (0,29) - 0,28 (0,815) = 02851
2. 1,77 (0,29) - 0,28 (0,81) = 02865
3. 1,77 (0,295 - 0,28 (0,815) = 0,29395

C. Tanah Lanau Liat Berpasir - $P_2$

1. 1,77 (0,32) - 0,28 (0,875) = 0,3214
2. 1,77 (0,315) - 0,28 (0,87) = 0,31395
3. 1,77 (0,31) - 0,28 (0,88) = 0,3023

D. Tanah Lanau Liat Berpasir - $P_3$

1. 1,77 (0,34) - 0,28 (0,94) = 0,3386
2. 1,77 (0,335) - 0,28 (0,945) = 0,32835
3. 1,77 (0,34) - 0,28 (0,95) = 0,3358

E. Tanah Pasir - $P_o$

1. 1,77 (0,22) - 0,28 (0,625) = 0,2144
2. 1,77 (0,24) - 0,28 (0,665) = 0,2386
3. 1,77 (0,2) - 0,28 (0,56) = 0,1972

F. Tanah Pasir - $P_1$

1. 1,77 (0,225) - 0,28 (0,625) = 0,22325
2. 1,77 (0,22) - 0,28 (0,625) = 0,2144
3. 1,77 (0,23) - 0,28 (0,645) = 0,2265

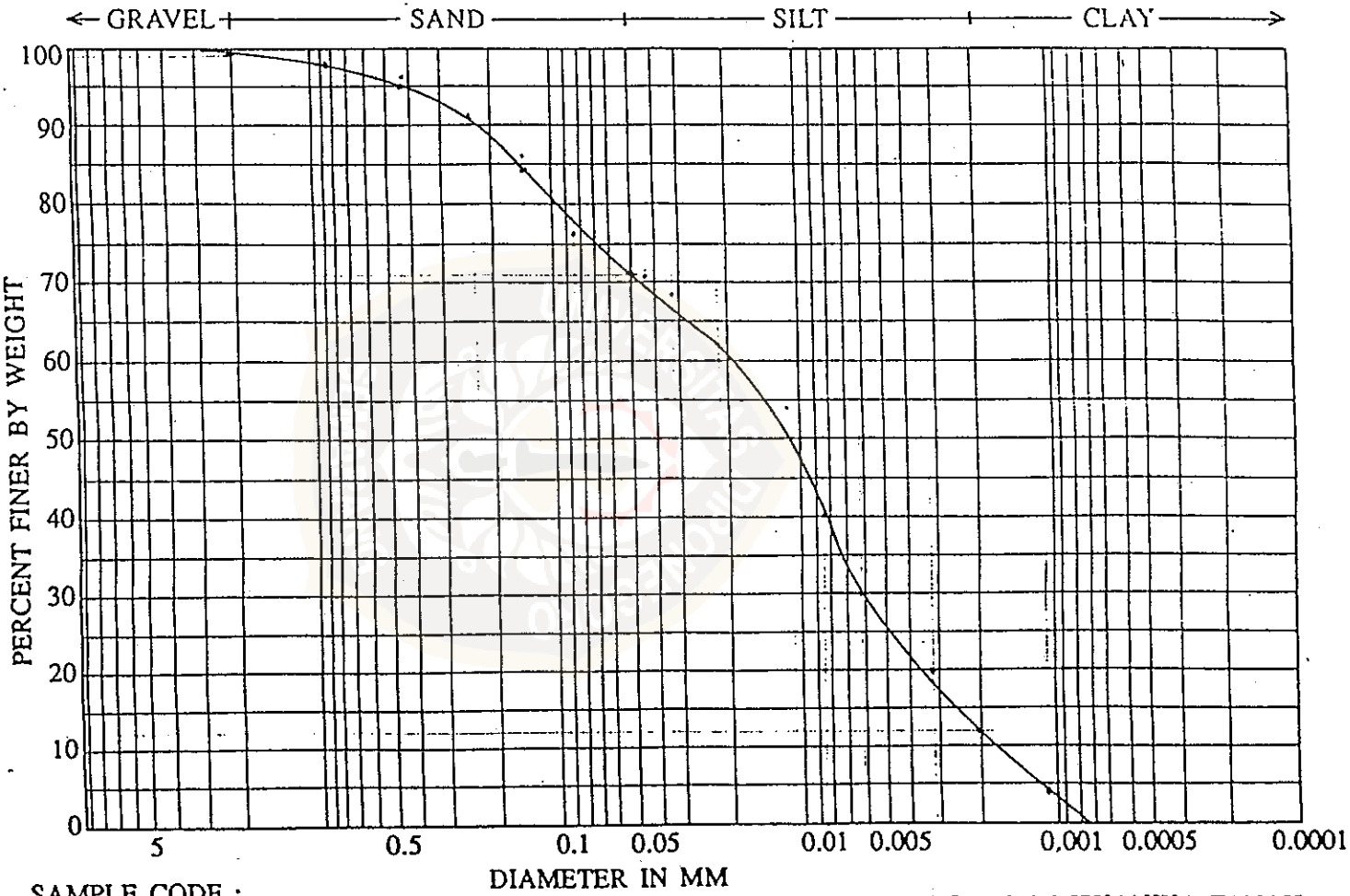
G. Tanah Pasir - $P_2$

1. 1,77 (0,245) - 0,28 (0,68) = 0,24325
2. 1,77 (0,25) - 0,28 (0,69) = 0,2493
3. 1,77 (0,245) - 0,28 (069) = 0,24045

H. Tanah Pasir - $P_3$

1. 1,77 (0,255) - 0,28 (0,71) = 0,25255
2. 1,77 (0,235) - 0,28 (0,665) = 0,22975
3. 1,77 (0,26) - 0,28 (0,715) = 0,026

# GRAIN SIZE ACCUMULATION CURVE




SAMPLE CODE :

Sample tanah dari Ngesrep.

| Gravel | Sand | Silt | Clay |
|---|---|---|---|
| 0,5 % | 28,5 % | 59 % | 12 % |

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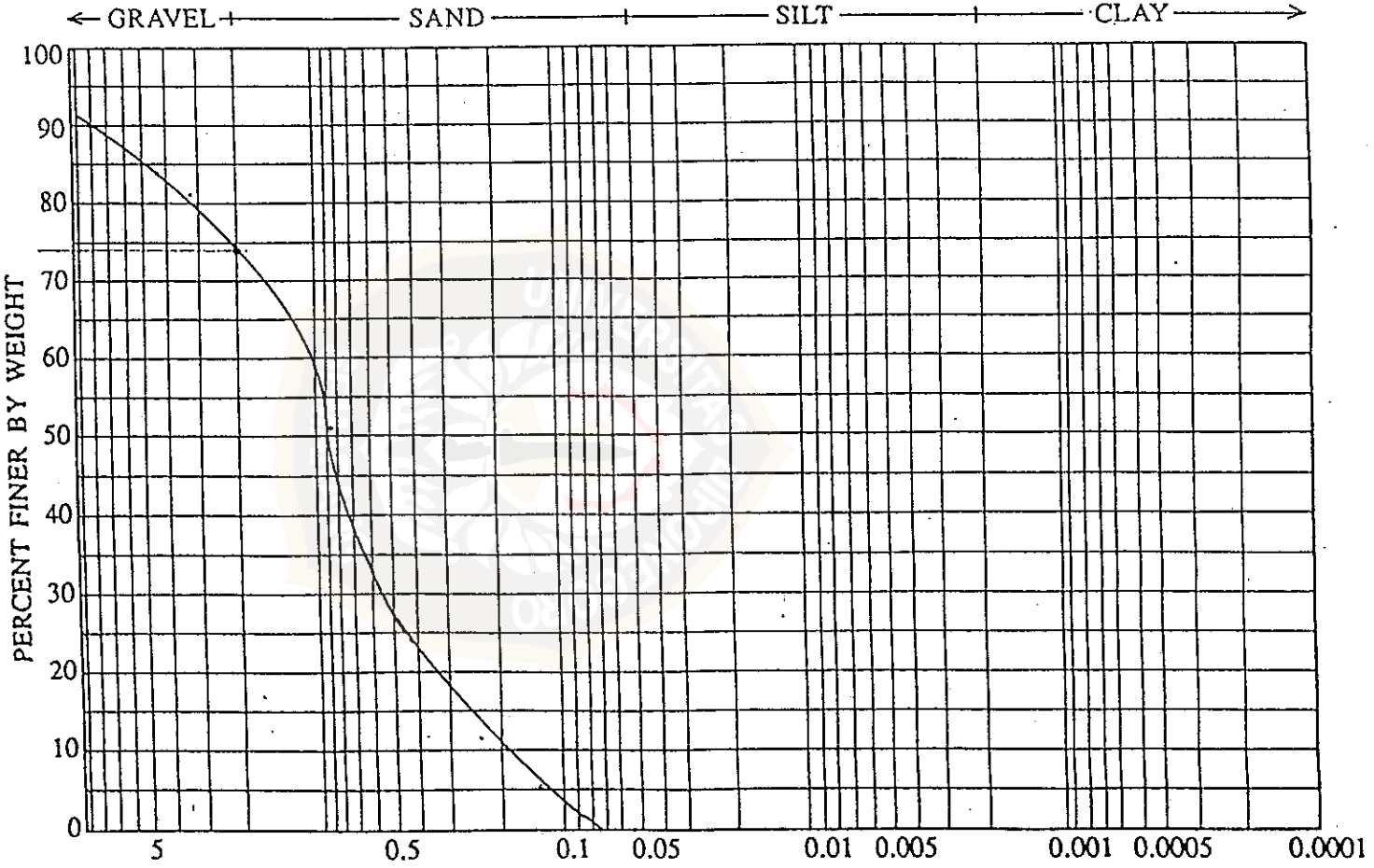
# GRAIN SIZE ACCUMULATION CURVE




SAMPLE CODE :

Sample Pasir Muntilan.

| Gravel | Sand | Silt | Clay |
|---|---|---|---|
| 26 % | 74 % | 0 % | 0 % |

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JURUSAN ILMU TANAH
FAKULTAS PERTANIAN UGM

Nomor order : 822
Nomor lab. : 7028

Hasil analisis tanah milik Sdri. Puji Setyaningsih
Sebanyak : 2 contoh.

| Nomor | Kode | Kadar lengas (%) kering angin 0,5 mm | N total % |
|---|---|---|---|
| 1. | Tanah | 7,07 | 0,13 |
| 2. | Pasir | 0,50 | 0,01 |

Yogyakarta, 16 Agustus 1994

Ketua PS Ilmu Tanah,

Dr. Ir. Rachman Sutanto, M.Sc.