

Table 3. Effect of bio, organic and inorganic nitrogen fertilizers on vegetative growth characters of pepper plants during 2013 and 2014 seasons

| Seasons | 2013 | | | | | 2014 | | | | | |
|----------------------|-------------|-------------------|---------------|-----------------|-----------------|-----------------|-------------------|---------------|-----------------|-----------------|-----------------|
| | Fertilizers | Plant length (cm) | No. of leaves | No. of branches | Leaves d.w. (g) | shoots d.w. (g) | Plant length (cm) | No. of leaves | No. of branches | Leaves d.w. (g) | shoots d.w. (g) |
| T ₁ | | 58.9 | 187.8 | 18.9 | 36.4 | 41.9 | 61.4 | 175.3 | 16.6 | 37.6 | 37.2 |
| T ₂ | | 62.9 | 232.1 | 21.7 | 42.4 | 46.2 | 67.2 | 250.3 | 21.5 | 47.3 | 55.3 |
| T ₃ | | 55.2 | 126.5 | 17.2 | 30.8 | 32.3 | 53.3 | 146.2 | 14.6 | 28.2 | 22.5 |
| T ₄ | | 56.8 | 151.6 | 18.4 | 35.3 | 36.5 | 59.9 | 112.3 | 16.4 | 36.1 | 34.6 |
| T ₅ | | 57.9 | 205.6 | 19.3 | 33.8 | 33.4 | 58.3 | 206.9 | 18.3 | 32.1 | 32.7 |
| T ₆ | | 61.2 | 222.4 | 19.4 | 40.8 | 41.4 | 61.4 | 214.3 | 21.8 | 43.6 | 41.1 |
| T ₇ | | 64.9 | 238.7 | 23.3 | 45.5 | 49.9 | 61.3 | 255.4 | 23.3 | 50.6 | 58.1 |
| T ₈ | | 66.8 | 242.3 | 27.3 | 48.2 | 56.9 | 63.9 | 261.9 | 24.9 | 53.9 | 61.7 |
| LSD (at 5% level) | | 5.0 | 46.1 | 1.9 | 11.0 | 9.9 | 5.9 | 49.1 | 1.8 | 8.5 | 7.9 |

T₁: Mineral – N (control) ; T₂: Mineral + bio; T₃: organic (FYM); T₄: organic (dried biogas digester residue); T₅: (FYM) + bio- N; T₆: (dried biogas digester residue) + bio – N; T₇: (FYM) + bio + mineral – N; T₈: (dried biogas digester residue) + bio + mineral – N.

⁽³²⁸⁾Bulletin No.(902),2004. Agriculture Research Centre, Ministry of Agriculture Egypt.

Table 4. Effect of bio, organic and inorganic nitrogen fertilizers on yield and physical fruit quality of pepper plants during 2013 and 2014 seasons

| Seasons | 2013 | | | | | 2014 | | | | |
|----------------------|-------------------------|----------------------|--------------------------------------|---------------------------|----------------------------|----------------------------|-------------------------|-----------------------------|---------------------------|----------------------------|
| | No. of fruits/ plant | Yield/ plant (kg) | Fruit yield (kg m ⁻²) | Fruit diameter (cm) | Flesh thickness (cm) | No. of fruits/ plant | Yield/ plant (kg) | Fruity yield (kg m-2) | Fruit diameter (cm) | Flesh thickness (cm) |
| T ₁ | 14.70 | 1.45 | 7.85 | 7.86 | 0.84 | 15.34 | 1.62 | 8.62 | 7.76 | 0.52 |
| T ₂ | 18.91 | 2.10 | 9.41 | 8.16 | 0.56 | 21.68 | 2.50 | 8.71 | 8.21 | 0.54 |
| T ₃ | 8.81 | 0.98 | 6.28 | 7.44 | 0.38 | 7.44 | 0.89 | 6.73 | 7.66 | 0.53 |
| T ₄ | 12.21 | 1.40 | 7.42 | 7.96 | 0.48 | 12.42 | 1.59 | 7.45 | 8.12 | 0.51 |
| T ₅ | 10.32 | 1.43 | 7.23 | 7.87 | 0.38 | 11.45 | 1.35 | 7.53 | 8.13 | 0.46 |
| T ₆ | 15.32 | 1.92 | 8.42 | 8.31 | 0.53 | 15.35 | 1.79 | 8.48 | 8.21 | 0.51 |
| T ₇ | 21.93 | 2.46 | 9.86 | 8.16 | 0.56 | 22.43 | 3.25 | 9.46 | 8.97 | 0.56 |
| T ₈ | 23.82 | 3.15 | 11.37 | 8.28 | 0.62 | 24.75 | 3.49 | 10.11 | 9.36 | 0.61 |
| LSD (at 5% level) | 2.71 | 0.21 | 0.98 | NS | NS | 2.76 | 0.27 | 0.79 | NS | NS |

T₁: Mineral – N (control); T₂: Mineral + bio; T₃: organic (FYM); T₄: organic (dried biogas digester residue); T₅: (FYM) + bio- N; T₆: (dried biogas digester residue) + bio – N; T₇: (FYM) + bio + mineral – N; T₈: (dried biogas digester residue) + bio + mineral – N.

Table 5. Effect of bio, organic and inorganic nitrogen fertilizers on chemical quality of pepper fruits during 2013 season

| Seasons | 2013 | | | | | | | | | | | | |
|----------------------|-----------------------|-----------|------|------------|------|------|------|-------|------|-------|------|------|------|
| | (mg g ⁻¹) | | | | (%) | | | | | (ppm) | | | |
| | Acidity | Vitamin C | TSS | Dry matter | N | P | K | Fe | Mn | Zn | Cu | Ni | Pb |
| T ₁ | 257.0 | 63.23 | 5.23 | 8.99 | 1.92 | 0.36 | 1.89 | 128.1 | 22.6 | 49.1 | 7.6 | 50.2 | 25.6 |
| T ₂ | 262.0 | 63.33 | 5.87 | 9.11 | 2.34 | 0.93 | 2.98 | 122.2 | 26.3 | 42.1 | 11.6 | 46.8 | 25.5 |
| T ₃ | 259.1 | 63.67 | 4.43 | 8.71 | 2.46 | 0.54 | 2.87 | 108.3 | 19.6 | 43.3 | 6.8 | 58.8 | 19.3 |
| T ₄ | 259.3 | 63.42 | 5.15 | 8.82 | 2.41 | 0.43 | 2.53 | 132.7 | 22.8 | 47.1 | 8.7 | 61.7 | 26.8 |
| T ₅ | 264.1 | 63.10 | 4.36 | 9.01 | 1.91 | 0.33 | 1.99 | 112.7 | 18.2 | 42.1 | 6.3 | 52.8 | 23.6 |
| T ₆ | 258.2 | 63.37 | 5.84 | 9.27 | 2.34 | 0.49 | 2.31 | 143.2 | 23.6 | 50.0 | 9.5 | 56.1 | 20.6 |
| T ₇ | 261.1 | 63.20 | 5.11 | 9.73 | 2.44 | 0.93 | 3.34 | 129.1 | 28.3 | 60.7 | 16.8 | 54.1 | 24.1 |
| T ₈ | 264.2 | 63.49 | 5.93 | 9.98 | 2.42 | 0.98 | 3.72 | 144.7 | 30.1 | 69.8 | 17.4 | 59.1 | 29.4 |
| LSD (at 5% level) | 2.3 | NS | NS | NS | 0.18 | 0.08 | 0.62 | 14.1 | 6.7 | 7.4 | 3.39 | NS | NS |

T₁: Mineral – N (control); T₂: Mineral + bio; T₃: organic (FYM); T₄: organic (dried biogas digester residue); T₅: (FYM) + bio- N; T₆: (dried biogas digester residue) + bio – N; T₇: (FYM) + bio + mineral – N; T₈: (dried biogas digester residue) + bio + mineral – N.

Table 6. Effect of bio, organic and inorganic nitrogen fertilizers on chemical quality of pepper fruits during 2014 season.

| Seasons | 2014 | | | | | | | | | | | | |
|----------------------|-----------------------|-----------|------|------------|------|------|------|-------|-------|------|------|------|------|
| | (mg g ⁻¹) | | | | (%) | | | | (ppm) | | | | |
| Fertilizers | Acidity | Vitamin C | TSS | Dry matter | N | P | K | Fe | Mn | Zn | Cu | Ni | Pb |
| T ₁ | 260.1 | 59.31 | 5.31 | 7.86 | 1.95 | 0.38 | 2.81 | 125.1 | 21.5 | 48.1 | 6.5 | 49.1 | 26.5 |
| T ₂ | 265.0 | 59.11 | 5.61 | 8.13 | 2.53 | 0.93 | 3.56 | 120.1 | 25.3 | 41.2 | 10.9 | 47.2 | 26.4 |
| T ₃ | 301.1 | 59.61 | 4.45 | 7.82 | 2.54 | 0.53 | 3.87 | 105.4 | 18.8 | 42.4 | 7.8 | 56.9 | 20.3 |
| T ₄ | 301.4 | 59.34 | 5.34 | 7.79 | 2.53 | 0.45 | 3.64 | 129.7 | 21.9 | 46.2 | 7.8 | 60.7 | 25.7 |
| T ₅ | 267.2 | 59.11 | 4.41 | 8.12 | 1.87 | 0.34 | 2.98 | 108.8 | 17.3 | 41.2 | 6.4 | 51.9 | 24.7 |
| T ₆ | 261.3 | 59.21 | 5.51 | 8.35 | 2.54 | 0.48 | 3.42 | 140.3 | 22.5 | 49.1 | 10.9 | 55.1 | 19.9 |
| T ₇ | 264.2 | 59.40 | 5.22 | 8.93 | 2.64 | 0.92 | 4.34 | 126.2 | 27.4 | 59.8 | 17.8 | 53.0 | 23.2 |
| T ₈ | 267.3 | 59.53 | 5.81 | 8.66 | 2.53 | 0.95 | 4.35 | 141.8 | 29.3 | 68.9 | 18.3 | 58.1 | 28.1 |
| LSD (at 5% level) | 2.3 | NS | NS | NS | 0.18 | 0.08 | 0.62 | 14.1 | 6.7 | 7.4 | 3.39 | NS | NS |

T₁: Mineral – N (control); T₂: Mineral + bio; T₃: organic (FYM); T₄: organic (dried biogas digester residue); T₅: (FYM) + bio- N; T₆: (dried biogas digester residue) + bio – N; T₇: (FYM) + bio + mineral – N; T₈: (dried biogas digester residue) + bio + mineral – N.