

| Soil texture<br>(%) |       |       | Elements<br>(mg kg <sup>-1</sup> ) |       |      |      |      |      | pH   | EC<br>(dS<br>m <sup>-1</sup> ) | OM<br>% | TN<br>% | FC<br>% |
|---------------------|-------|-------|------------------------------------|-------|------|------|------|------|------|--------------------------------|---------|---------|---------|
| Sand                | Silt  | clay  | K                                  | P     | Fe   | Mn   | Cu   | Zn   |      |                                |         |         |         |
| 25.60               | 63.40 | 11.00 | 345.05                             | 10.49 | 1.40 | 3.20 | 0.72 | 3.00 | 7.98 | 0.64                           | 0.71    | 0.04    | 16.78   |

Table 1

Physical and chemical properties of the soil

Table 2

Effect of water deficit stress and PGPB symbiosis on seed physical trait in *Camelina sativa*. (D0: 100%FC, D1: 75%FC, D2: 50% FC, B0: Non inoculated, B1: inoculated)

|      | 1000-Weight seed (g) | Seed number per silique | Seed number per plant | Silique number per plant | Silique length(mm) | Branch's number | Plant length (cm) |
|------|----------------------|-------------------------|-----------------------|--------------------------|--------------------|-----------------|-------------------|
| B0D0 | 0.85±0.03 b          | 10.7±0.1ab              | 496±0.1 bc            | 480 ± 0.1                | 8.86±0.09a         | 7.3±0.5b        | 86.32±1.0ab       |
| B0D1 | 0.98 ±0.06 ab        | 10.6±0.1ab              | 469±0.1 dc            | 46±0.03 bc               | 8.56±0.05ab        | 7±0.0b          | 88.33±0.5a        |
| B0D2 | 1.12±0.05a           | 9.7±0.06b               | 413±0.2 d             | 42±0.01 c                | 8.65±0.04ab        | 7.3±0.0b        | 84.0±0.5ab        |
| B1D0 | 0.96±0.01ab          | 11.8±0.06a              | 637±0.1 a             | 53±0.00 5a               | 8.71±0.04a         | 8±0.0b          | 92.66±0.4a        |
| B1D1 | 0.95±0.1a            | 11.5±0.5a               | 570±0.3 ab            | 49±0.02 ab               | 8.59±0.07ab        | 7±0.0b          | 89.66±1.1a        |
| B1D2 | 1.19±0.1a            | 10.8±0.5ab              | 519±0.3 bc            | 47b±0.1 c                | 8.07±0.3b          | 14±0.5a         | 69.66±0.6b        |

The values presented are mean ±SE from three replicates of each treatment. Different letters indicate significant differences at P≤0.05

| elements | B0D0        | B0D1         | B0D2          | B1D0         | B1D1         | B1D2         |
|----------|-------------|--------------|---------------|--------------|--------------|--------------|
| C        | 56.88±0.96a | 54.54±0.15bc | 55.53±0.35abc | 56.05±1.19ab | 54.19±0.23c  | 54.95±0.25bc |
| N        | 5.84±0.45c  | 6.01±0.13c   | 6.78±0.22b    | 5.91±0.0.11c | 7.46±0.24a   | 6.02±0.10c   |
| H        | 0.304±0.1a  | 0.282±0.04a  | 0.247±0.02a   | 0.302±0.02a  | 0.270±0.003a | 0.274±0.002a |
| S        | 0.047±0.01a | 0.037±0.009b | 0.029±0.005bc | 0.0260±0.008 | 0.004±0.01d  | 0.016±0.002e |
| p        | 686.5±001e  | 1201.3±0.03d | 1247.7±0.21d  | 1503±0.03b   | 1376.3±0.1c  | 1629±0.04a   |
| Fe       | 26.44±0.01f | 50.55±0.005c | 46.34±0.05e   | 54.48±0.03b  | 63.51±0.01a  | 49.53±0.2d   |
| Zn       | 38.47±0.05f | 47.49±0.04d  | 44.47±0.006e  | 51.79±0.005b | 57.38±0.002a | 48.55±0.04c  |
| Mn       | 7.75±0.2d   | 13.12±0.03c  | 13.62±0.003b  | 13.87±0.1a   | 13.75±0.03ab | 13.13±0.02c  |
| C:N      | 9.86a       | 9.05b        | 8.18c         | 9.02b        | 7.28d        | 9.02b        |
| N:S      | 4.45b       | 4.46±b       | 5.16±b        | 6.98±b       | 37.26±a      | 10.90±b      |

Table 3

Effect water deficit stress and PGPB symbiosis on content of carbon (C), nitrogen (N), hydrogen (H), sulphur (S), phosphorus (P), iron (Fe), zink (Zn), manganese (Mn) in *Camelina sativa*. . (D0: 100%FC, D1: 75 %FC, D2: 50% FC, B0: Non inoculated, B1: inoculated)

The values presented are mean ±SE from three replicates of each treatment. Different letters indicate significant differences at  $P \leq 0.05$

Table 4

Effect water deficit stress and PGPB symbiosis on antioxidant capacity by DPPH, total phenolic content, total soluble carbohydrate, protein content and oil content. (D0: 100%FC, D1: 75%FC, D2: 50% FC, B0: Non inoculated, B1: inoculated)

| Antioxidant capacity             | B0D0                  | B0D1                  | B0D2                    | B1D0                   | B1D1                     | B1D2                   |
|----------------------------------|-----------------------|-----------------------|-------------------------|------------------------|--------------------------|------------------------|
| DPPH ( $\mu\text{mol TE/g DW}$ ) | 8.38 $\pm$ 0.02<br>c  | 9.36 $\pm$ 0.02<br>bc | 16.68 $\pm$ 0.004a<br>b | 8.19 $\pm$ 0.03c       | 15.37 $\pm$ 0.001a<br>bc | 20.54 $\pm$ 0.04a      |
| TPC (mg GAE/g DW)                | 10.46 $\pm$ 0.1<br>d  | 12.29 $\pm$ 0.2<br>3c | 13.79 $\pm$ 0.12b       | 10.50 $\pm$ 0.2 d      | 14.04 $\pm$ 0.1ab        | 14.34 $\pm$ 0.13a      |
| TSC (mg Glu/ DW)                 | 33.65 $\pm$ 0.2<br>c  | 37.22 $\pm$ 0.1<br>c  | 66.03 $\pm$ 0.51a       | 31.3 $\pm$ 0.01c       | 43.36 $\pm$ 0.02bc       | 58.64 $\pm$ 0.12a<br>b |
| Protein%                         | 20.44 $\pm$ 0.2<br>f  | 24.45 $\pm$ 0.0<br>4c | 25.7 $\pm$ 0.13b        | 21.72 $\pm$ 0.001<br>e | 23.14 $\pm$ 0.2d         | 27.16 $\pm$ 0.1a       |
| Oil%                             | 31.94 $\pm$ 0.5<br>1a | 28.93 $\pm$ 0.1<br>4b | 27.79 $\pm$ 0.54cb      | 31.28 $\pm$ 0.5a       | 28.9 $\pm$ 0.35b         | 27.23 $\pm$ 0.05c      |

The values presented are mean  $\pm$ SE from three replicates of each treatment. Different letters indicate significant differences at  $P \leq 0.05$

Table 5

Effect of water deficit stress and PGPB symbiosis on fatty acid profile in *Camelina sativa*. C16:0 palmitic acid, C18:0 stearic acid, C18:1 oleic acid, C18:2 linoleic acid, C18:3 linolenic acid, C20:1 eicosanoid acid, C22:1 erucic acid, SFA saturated fatty acid, MUFA monounsaturated fatty acid, PUFA polyunsaturated fatty acid, (D0: 100%FC, D1: 75%FC, D2: 50% FC, B0: Non inoculated, B1: inoculated)

|       | B0D0         | B0D1        | B0D2        | B1D0        | B1D1       | B1D2        |
|-------|--------------|-------------|-------------|-------------|------------|-------------|
| C16:0 | 9.5 ±1.01c   | 9.6 ±0.4b   | 9.9 ±0.3a   | 7.8 ±0.2f   | 9.1±1.03d  | 8.1 ±1.1e   |
| C18:0 | 3.5±0.1b     | 3.5±0.4c    | 3.6±1.2a    | 2.8±0.9f    | 3.4±0.6d   | 3.1±1.5e    |
| C18:1 | 3.17±1.0a    | 2.76±1.3b   | 1.69±1.1d   | 1.83±0.9c   | 3.13±0.2a  | 1.81±.6c    |
| C18:2 | 22.6±0.3c    | 23.2±0.5a   | 22.8±0.5b   | 18.53±0.3f  | 22.3±0.4d  | 20.12±0.3e  |
| C18:3 | 37.5±0.7e    | 40.8±0.4c   | 37.9±0.5d   | 33.4±0.3f   | 41.3±0.1b  | 43.4±0.2a   |
| C20:1 | 14.1±0.9b    | 13.1±0.5c   | 12.5±0.5d   | 11.3±01.04e | 14.3±0.5a  | 10.99±0.2f  |
| C22:1 | 2.6±0.4ab    | 2.1±0.5bc   | 2.1±0.4bc   | 3.03±0.5a   | 2.1±0.3bc  | 1.64±0.7c   |
| SFA   | 15.2±0.1b    | 15.3±0.09b  | 16.1±0.1a   | 12.8±0.1d   | 14.7±0.3c  | 12.9±0.5d   |
| MUFA  | 20.05±0.6b   | 18.08±1.7c  | 16.36±1.6d  | 30.38±0.6a  | 19.69±1.5b | 15.59±1.3d  |
| PUFA  | 61.05±0.08bc | 58.19±2.1dc | 61.1±6.17bc | 55.12±4.3d  | 65.66±0.2a | 64.13±0.5ab |

The values presented are mean ±SE from three replicates of each treatment. Different letters indicate significant differences at  $P \leq 0.05$









