Table 1. Effects of activated charcoal and days of culture on biometrical traits of *Aloe barbadensis* shoots

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Factors | Shoot length (mm) | No. of leaves | Fresh weight  (g shoot-1) | Dry matter (%) | Elongation rate  (mm d-1) | No. of roots |
| Activated Charcoal (AC) (%) |  |  |  |  |  |  |
| 0 | 24.1 | 5.3 | 0.45 | 6.1 | 0.34 | 3.8 |
| 1 | 45.3 | 5.4 | 1.74 | 5.2 | 1.04 | 3.3 |
| Days of culture (D) |  |  |  |  |  |  |
| 20 | 25.8 | 5.3 | 0.76 | 6.6 | 0.62 | 2.9 |
| 40 | 43.5 | 5.5 | 1.43 | 4.8 | 0.75 | 4.2 |
| Significance |  |  |  |  |  |  |
| AC | \*\*\* | ns | \*\*\* | ns | \*\*\* | ns |
| D | \*\*\* | ns | \* | \* | ns | \* |
| AC\*D | ns | ns | ns | ns | ns | ns |

ns, (\*), (\*\*\*) are non significant or significant at P < 0.05 or 0.001, respectively.

Table 2. Effects of activated charcoal and days of culture on pH and electrical conductivity (EC) of the culture medium, the uptake of nitrate and ammonium and the ratio between ammonium and nitrate uptake.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Factors | pH | EC  (dS m-1) | NO3- uptake  (mg g-1dw) | NH4+ uptake  (mg g-1dw) | | NH4+ /NO3- uptake | |
| Activated Charcoal (AC) (%) |  |  |  | |  | |  | |
| 0 | 4.48 | 3.42 | 16.75 | | 20.12 | | 1.22 | |
| 1 | 5.42 | 2.37 | 23.75 | | 19.18 | | 0.81 | |
| Days of culture (D) |  |  |  | |  | |  | |
| 20 | 5.04 | 3.46 | 20.01 | | 21.19 | | 1.11 | |
| 40 | 4.75 | 2.33 | 20.87 | | 18.09 | | 0.92 | |
| Significance |  |  |  | |  | |  | |
| AC | \*\* | \*\* | \*\* | | ns | | \*\* | |
| D | \*\* | ns | ns | | ns | | \* | |
| AC\*D | ns | ns | ns | | ns | | ns | |

ns, (\*), (\*\*), are non significant or significant at P < 0.05 or 0.01, respectively.

Table 3. Effects of activated charcoal and days of culture on the final concentration of major and trace elements of *Aloe barbadensis* tissue

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Major elements (mg g-1 dw) | | | | | | | |  | Trace elements (µg g-1 dw) | | | |  |
| Factors | N | K | P | | Mg | | Ca | Na |  | Mn | Fe | B | Zn | Cu |
| Activated Charcoal (AC) (%) |  |  |  |  | |  | |  |  |  |  |  |  |  |
| 0 | 28.47 | 38.18 | 7.05 | 1.93 | | 7.15 | | 1.51 |  | 167.80 | 118.76 | 32.54 | 75.53 | 5.47 |
| 1 | 34.22 | 32.57 | 7.50 | 1.87 | | 5.47 | | 1.33 |  | 123.46 | 57.79 | 22.71 | 51.63 | 5.42 |
| Days of culture (D) |  |  |  |  | |  | |  |  |  |  |  |  |  |
| 20 | 29.12 | 39.09 | 8.41 | 2.02 | | 6.93 | | 1.37 |  | 153.53 | 61.14 | 26.33 | 57.61 | 3.79 |
| 40 | 34.01 | 32.96 | 6.38 | 1.82 | | 6.05 | | 1.52 |  | 147.40 | 116.56 | 29.73 | 72.07 | 7.10 |
| Significance |  |  |  |  | |  | |  |  |  |  |  |  |  |
| AC | \* | \*\* | ns | ns | | \*\* | | \* |  | \* | \*\*\* | \* | \*\*\* | ns |
| D | \* | \* | \* | ns | | ns | | \* |  | ns | \*\* | ns | \*\* | \*\* |
| AC\*D | ns | ns | \* | \* | | ns | | \* |  | ns | \*\* | ns | ns | ns |

ns, (\*), (\*\*), (\*\*\*) are non significant or significant at P < 0.05, 0.01 or 0.001, respectively.