

Supplementary materials for

Combined effects of water deficit, exogenous ethylene application and root symbioses on trigonelline and ABA accumulation in fenugreek

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Table S1. Quantification analysis of trigonelline and ABA. Average and Standard deviation (\pm) values are reported. Results of three-way ANOVA for the three considered effects are included (Stress, Inoculation and Ethephon application). NS, no stress; S, water stress; NI, no inoculation; I, inoculation; E0, E350, E550, E850, ethephon treatments. Codes for *p-value*: *** $0 \leq 0.001$, ** $0.001 \leq 0.01$, * $0.01 \leq 0.05$, *ns* not significant. Tukey's test outcomes are reported in Figure 1 and 2.

Source of Variance	Trigonelline ($\mu\text{g g}^{-1}$)	ABA ($\mu\text{g g}^{-1}$)
Stress	ns	ns
Inoculation	***	***
Ethephon	*	ns
Stress*Inoculation	ns	ns
Stress* Ethephon	ns	**
Inoculation* Ethephon	**	ns
Stress*Inoculation*Ethephon	ns	**
Stress		
NS	6766.30 \pm 1684.05	11.37 \pm 4.35
S	7972.02 \pm 2209.04	9.34 \pm 4.47
Inoculation		
NI	5565.05 \pm 1792.5	5.56 \pm 3.05
I	9173.27 \pm 2163.43	15.15 \pm 5.77
Ethephon		
E0	6926.34 \pm 1700.6	8.22 \pm 3.69
E350	6069.26 \pm 2244.02	8.81 \pm 4.72
E550	8210.34 \pm 2220.14	13.98 \pm 5.10
E850	8270.71 \pm 1621.42	10.42 \pm 4.12
Stress*Inoculation		

NINS	4774.60±1070.15	5.04±2.21
NIS	6355.50±2389.17	6.09±3.88
INS	8758.00±2297.94	17.70±6.48
IS	9588.54±2028.92	12.6±5.06
Stress*Ethephon		
NSE0	6504.80±1252.82	3.30±0.87
NSE350	5425.72±1671.11	7.51±4.46
NSE550	6690.84±1641.42	19.91±5.84
NSE850	8443.84±2170.84	14.76±6.22
SE0	7347.88±2148.38	13.14±6.52
SE350	6712.79±2816.94	10.11±4.98
SE550	9729.84±2798.86	8.06±4.36
SE850	8097.58±1072.00	6.07±2.03
Inoculation*Ethephon		
NIE0	6025.97±2634.38	5.3±3.03
NIE350	4849.97±1319.98	6.62±4.84
NIE550	6937.17±2003.65	5.98±2.49
NIE850	4447.09±960.65	4.36±1.84
IE0	7826.71±766.82	11.14±4.35
IE350	7288.54±3168.07	11.00±4.6
IE550	9483.51±2436.64	21.99±7.72
IE850	12094.33±2282.18	16.48±6.40
Stress*Inoculation*Ethephon		
NINSE0	5466.74±1749.00	4.39±0.82
NINSE350	4874.65±765.44	8.61±6.58
NINSE550	4264.78±1134.69	3.91±0.75
NINSE850	4492.21±631.48	3.24±0.70
NISE0	6585.2±3519.75	6.20±5.24
NISE350	4825.29±1874.51	4.62±3.09
NISE550	9609.56±2872.6	8.05±4.22
NISE850	4401.96±1289.82	5.47±2.98
INSE0	7542.85±756.63	2.20±0.91
INSE350	5976.79±2576.78	6.40±2.34
INSE550	9116.89±2148.15	35.91±10.93
INSE850	12395.46±3710.19	26.28±11.73
ISE0	8110.56±777.01	20.08±7.79
ISE350	8600.29±3759.36	15.60±6.86

ISE550	9850.12±2725.12	8.06±4.50
ISE850	11793.20±854.17	6.67±1.07

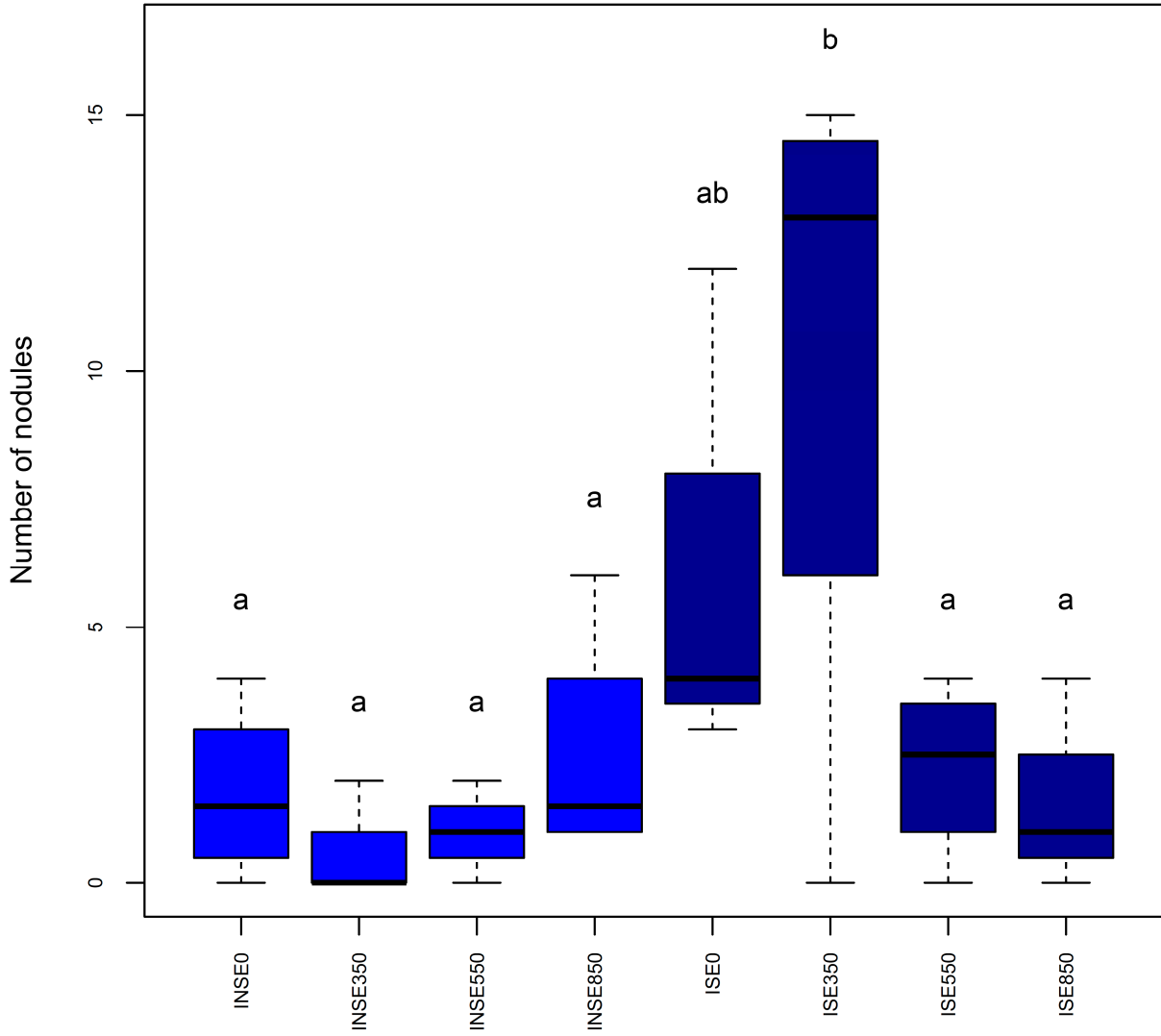


Figure S1. Boxplot show the number of nodules (alone or as aggregate) in I plants (n= 4). Blue and dark-blue boxes represent non-stressed and water stressed plants, respectively. Letters are plotted according to outcomes of Tukey's test.

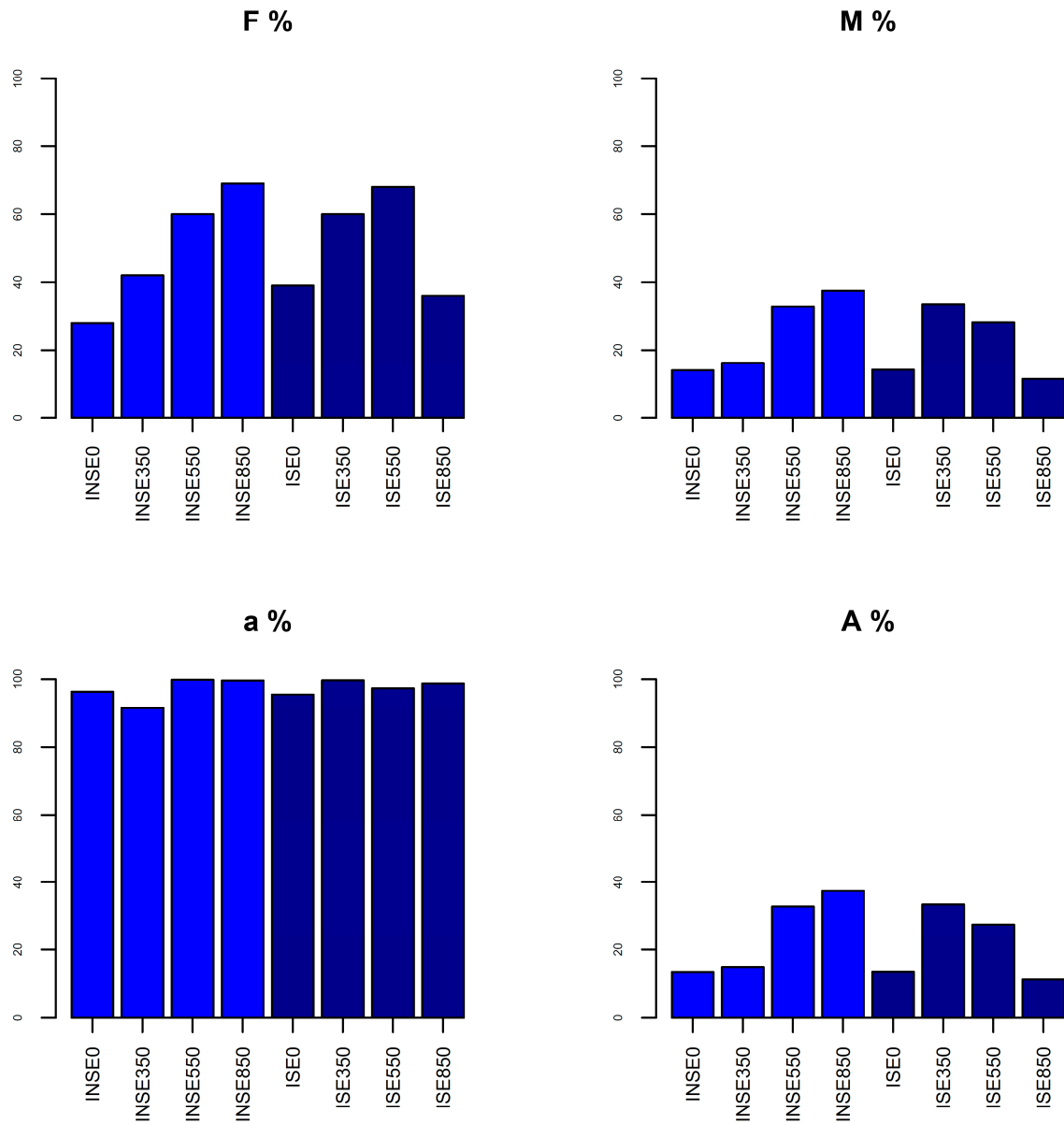


Figure S2. Colonization rate in fenugreek roots after inoculation with an AM fungal inoculum. F%, frequency of mycorrhiza in the root system, M% intensity of the mycorrhizal colonization in the root system, a% arbuscule abundance in mycorrhizal parts of root fragments, A% arbuscule abundance in the root system.