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Effect of Priming with Organics and Botanicals on Seed Quality Parameters of Greengram (*Vigna radiata* L. Wilczek) *var. samrat* under Salinity Stress conditions

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ABSTRACT: Food legumes constitute important ingredient of Indian diet as they supply nutrients and essential amino acids. Moong bean is one among the important food legumes with cultivated acreage area of around three million hectares. Legumes are highly sensitive to the abiotic factors like temperature, nutrient deficiency, moisture stress and salinity stress conditions. Keeping this in view, the present study was carried out in seed testing laboratory of the department of genetics and plant breeding, SHUATS, Prayagraj. Seed priming with organics panchagvya and bheejamrutha and botanicals sea weed extract and curry leaf extract was assessed for seed quality parameters under the various salinity stress conditions of 0mM, 150mM and 250 mM on samrat variety of greengram. Seed priming under various salinity stress conditions with the above cited treatments recorded significant variation with the untreated control. The treatment combination T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels performed well with seedling germination of 86.250%, 36.775 cm seedling length, 2.150 g fresh weight, 0.560 g dry weight, 2923.85 seedling vigour index-i and 48.298 vigour index-ii.

Keywords: Botanicals, Moisture stress, Organics, Priming and Salinity stress.

INTRODUCTION

Pulses are wonder gift of nature to the living universe and are the real gateway of sustainable agriculture (R.K. Bhairawa *et al.,* (2014). Greengram (*Vigna radiata* L. Wilczek) is one of the most importance pulse crops of the global economic importance; also called as moong or mug and belongs to the family *Leguminoceae*. It is an excellent source of protein (24.5%) with the high quality of lysine (460 mg/g) and tryptophan (60 mg/g), 0.6 % fat, 0.9 % fiber and 3.7 % ash (Dharwe *et al.*, 2018).

Salinity, an abiotic stress is an ever-increasing problem that seriously affects crop production in various parts of the world, especially in areas where are irrigated with water containing salts. Salinity reduces the yield of pulses by more than 50%. The reduction in yield due to salinity is due to a number of physiological and biochemical abnormalities in the metabolic process of the plants (Kokani *et al.,* 2015). Soil salinity is a major abiotic stress that interferes with the proper establishment of seed and seed germination. Increased salt concentrations are conducive to physical drought, where the chances of seed formation are greatly reduced. Increased salinity concentrations reduce seed germination, seedling growth, fresh weight and root shoot ratio (Shima *et al*., 2015). Salinity not only slows growth, but also affects plant metabolism (Mahjabeen *et al.,* 2021). Priming with organics, botanicals, halogens, osmoticants, growth regulators etc., can reduce the adverse salinity effects primarily physiological drought on seed to a certain limit (Hazzoumi *et al.,* 2014).

Seed priming with organics with panchagavya and beejamrutha provides some micro and macro nutrients which are beneficial to the plants and it is a cheap input and easy to acquire by the rural produce (Kumar *et al.,* 2017). Organics are widely suggested as a priming agent, due to naturally occurring beneficial microorganisms, yeast, actinomycetes, photosynthetic bacteria, essential micro nutrients, nitrogen fixers, phosphorus solubilises, arbuscular mycorrhizae and fungi (Subha *et al.,* 2017).

Seaweed extracts are marketed as liquid fertilizers and bio-stimulants as they contain multiple growth regulators (Shehzad *et al.,* 2018) *viz.,* cytokinins, auxins, gibberellins and various macro and micronutrients necessary for seedling growth. Potential usage of sea weed extracts in sustainable agriculture has increased because of its organic and bio-degradable properties (Singh *et al.,* 2017).

Botanicals have synergistic effect on early and uniform seed germination and enhances tolerance to the pest and diseases. Premabatidevi *et al.,* (2018) reported that botanical seed treatment possesses antifungal activities against the seed borne fungi. Curry leaf extracts mainly contains growth regulators which play an important role from germination up to senescence (Pandian *et al.,* 2005).

Legumes are highly sensitive to abiotic factors *viz.*, salinity, temperature, water scarcity etc. So, the present study was under taken to assess the response of greengram to priming with organics and botanicals under salinity stress conditions.

MATERIALS AND METHODS

The study was conducted at the Seed Testing Laboratory of Sam Higginbottom University of Agricultural Technology and Sciences (SHUATS), Department of Genetics and Plant Breeding, Naini Agricultural Institute (NAI), Prayagaraj (U.P.). The current experiment was done using a complete randomized design with four experiments. Green gram variety "Samrat" seeds has been used experimentally from T0 to T8 for various organic seed treatments using different salinity levels designated as S0, S1 and S2. Lab experiment data analysis was evaluated by two-way ANOVA (salinity and Treatment), following a completely randomized design (Fisher, 1936) process.

Treatments: T_0-Control, T_1- Panchagavya at 7% for 12 hrs., T_2- Panchagavya at 9% for 12 hrs., T_3- Beejamrutha at 5% for 12 hrs., T_4- Beejamrutha at 7% for 12 hrs., T_5- Sea weed extract at 3% for 12 hrs., T_6- Sea weed extract at 5% for 12 hrs., T_7-Curry leaf extract at 6% for 12 hrs. and T_8-Curry leaf extract at 8% for 12 hrs.; S_0- 0mM NaCl, S_1- 150mM NaCl and S_2- 250mM NaCl.

METHODOLOGY

Panchagavya, a fermented product formed from products of aged cow *viz.*, milk, urine, dung, curd and butter**.** Up to 15 days these products are mixed twice a day in a pot to form "Panchagavya". To prepare 7% & 9% solution; 70ml & 90ml of Panchagavya will be taken in beaker and then 1000ml distilled water was added with stirring.

Beejamruth was prepared by adding 5Kg cow dung in a cloth, bound by tape and was submerged in 20 litres of water for 12 hrs; 50g of slaked lime was dissolved in 20 litres of water in separate container and left overnight. After 12 hrs, this bundle of cow dung was squeezed thrice, to form cow dung extract and a Kg of soil was dissolved in the extract along with slitters of cow urine and lime water. 5% and 7% Beejamrutha solution was formed by adding 50ml &70ml of the formed solution in to 1000ml of water.

30g & 50g of sea weed powder was taken in a beaker and it was added in 1000 ml of distilled water with constant stirring. The solution finally constitutes to 3% & 5% sea weed extract solution respectively.

60g & 80g of curry leaf powder was taken in a beaker and was added in 1000 ml of distilled water with constant stirring. Then the solution finally constitutes to 6% & 8% curry leaf solution.

8.76g &14.76g of NaCl was dissolved in 1000ml of water to constitute 150mM and 250mM NaCl solution respectively.

RESULTS

Germination (%): Maximum germination of 80.750% was recorded with treatment **T_2**- Panchagavya at 9% for 12 hrs; **S_0**- 0mM NaCl recorded maximum germination of 81.056% respectively. Minimum germination due to the effect of treatments of 68.03% was recorded with the untreated control (T_0) and due to salinity stress was recorded with **S_2**- 250mM NaCl of 69.611%. Interaction effect of treatment and salinity (T x S) was recorded maximum with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels of 86.250% and least with T_0S_2- Control at 250 mM NaCl stress levels 60.750 % of germination.

Root length (cm): Root lengths of 14.411cm and 13.645cm which was maximum amongst treatments was recorded by **T_2**- Panchagavya at 9% for 12 hrs and amongst salinity stress levels by **S_0**- 0mM NaCl respectively. Lowest root lengths of 11.845cm and 12.175cm was recorded with the untreated control (T_0) and salinity stress level **S_2**- 250mM NaCl among treatments and salinity levels. Interaction effect with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels recorded maximum of 15.050 cm and minimum of 11.188 cm with T_0S_2- Control at 250 mM NaCl stress levels respectively.

Shoot length (cm): Maximum shoot lengths of 20.264cm and 20.307cm was seen with treatment **T_2**- Panchagavya at 9% for 12 hrs and salinity stress level of **S_0**- 0mM NaCl respectively. Lowest shoot length of 17.372cm and 16.863cm was recorded with control (T_0) and salinity stress level **S_2**- 250mM NaCl. Interaction effect with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels recorded maximum of 21.725 cm and minimum of 15.393 cm with T_0S_2- Control at 250 mM NaCl stress levels respectively.

Seedling length (cm): Highest seedling length of 34.592cm and 33.951cm was recorded by **T_2**- Panchagavya at 9% for 12 hrs among the treatments and by **S_0**- 0mM NaCl among the salinity stress conditions respectively. Minimum length of 29.216cm and 29.363cm was observed with control (T_0) and salinity stress level **S_2**- 250mM NaCl accordingly. Interaction effect with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels recorded maximum of 36.775 cm and minimum of 26.580 cm with T_0S_2- Control at 250 mM NaCl stress levels respectively.

Seedling fresh weight (g): Highest fresh weights of 2.329g and 2.150g was recorded by treatment **T_2**- Panchagavya at 9% for 12 hrs and salinity stress level of **S_0**- 0mM NaCl respectively. Lowest weights of 1.885g and 1.783g was recorded with the untreated control (T_0) and **S_2**- 250mM NaCl respectively. Interaction effect was maximum in T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels with 2.510 g and minimum in T_0S_2- Control at 250 mM NaCl stress level with 1.705 g.

Seedling dry weight (g): Maximum seedling dry weights of 0.450g and 0.457g was recorded with treatment **T_2**- Panchagavya at 9% for 12 hrs and with salinity stress level of **S_0**- 0mM NaCl amongst the treatments and salinity stress conditions respectively. Lowest dry weights of 0.240g and 0.256g was recorded with control (T_0) and salinity stress level **S_2**- 250mM NaCl respectively. Interaction effect with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress

levels recorded maximum of 0.560 g and minimum of 0.160 g with T_0S_2- Control at 250 mM NaCl stress levels.

Seedling vigour index-i: Maximum vigour index-i of 2592.59 and 2478.66 was recorded with **T_2-** Panchagavya at 9% for 12 hrs and with **S_0-** 0mM NaCl among treatments and salinity stress factors respectively. Minimum of 1855.74 and 1923.82 was recorded with control (T_0) and salinity stress level **S_2-** 250mM NaCl. Among the interaction effect, T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels recorded maximum of 2923.85 and minimum of 1556.04 with T_0S_2- Control at 250 mM NaCl stress levels respectively.

Placing Seeds on Germination Paper.

Seedling vigour index-ii: Among the treatment factor, maximum vigour index-ii of 36.706 and 36.398 is recorded by treatment **T_2-** Panchagavya at 9% for 12 hrs and among the salinity factor, by salinity stress level of **S_0-** 0mM NaCl respectively. The minimum of 16.708 and 19.979 was recorded with the untreated control (T_0) and salinity stress level **S_2-** 250mM NaCl. Interaction effect with T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels recorded maximum of 48.298 and minimum of 9.715 with T_0S_2- Control at 250 mM NaCl stress levels respectively.

DISCUSSION

The results obtain in the experimentation seed priming with different organics for seed quality parameters under the various salinity stress conditions reviled that microorganisms such as *Rhizobium*, *Azotobacter*, *Azospirillum*, phosphorus-soluble bacteria, *Trichoderma* and *Pseudomonas* in the Panchagavya act as liquid bio-fertilizers and bio-pesticides. Sometimes shoot length and root length decrease with increasing concentration levels and organic fortification, which is typical for crops in general due to the optimal dose of organic product (Kumar *et al.*, 2020). Increased salinity concentrations affect seed germination, plant growth, and seed metabolic activity on physiological parameters (Mahajabeen *et al.*, 2021). Higher salt concentrations further reduced seed emergence rates, resulting in a 26% decrease (when increased at 200 mM NaCl) and a 46% decrease (at 400 mM NaCl) (Guo *et al.*, 2020). The two main characteristics are the potential for osmosis in saline soils and the high solubility of toxic to plants. Reduces the possibility of radical water and radical water after the absorption of soil solvents, the plant is physiologically prone to drought. High concentrations of solvents in the soil on the other hand and consequently Na and Ca intake are toxic to the plant (Khalesro *et al.*, 2015).

Table 1: Mean performance on effect of treatments on seed quality parameters of greengram under salinity stress conditions.

Treatments		Germination (%)	Root length (cm)	Shoot length (cm)	Seedling length (cm)	Seedling fresh weight(g)	Seedling dry weight (g)	Seedling vigour index-i	Seedling vigour index-ii
T_0		68.083	11.844	17.372	29.216	1.885	0.240	1855.742	16.708
T_1		77.583	13.344	18.851	32.195	2.045	0.375	2267.168	29.399
T_2		80.750	14.411	20.264	34.592	2.329	0.450	2592.596	36.706
T_3		75.750	12.511	18.785	31.296	1.963	0.322	2181.023	24.650
T_4		76.583	13.798	19.300	33.098	1.894	0.408	2373.091	32.029
T_5		76.667	12.800	18.668	31.468	1.882	0.353	2198.018	27.457
T_6		77.833	13.110	19.363	32.473	1.923	0.321	2317.048	25.275
T_7		71.583	12.004	17.695	29.699	1.846	0.318	1979.938	23.099
T_8		73.167	12.183	18.056	30.213	1.965	0.353	2090.215	26.218
Grand Mean		**75.333**	**12.889**	**18.705**	**31.585**	**1.974**	**0.341**	**2206.092**	**26.831**
CD at 5%		1.245	0.257	0.391	0.520	0.063	0.034	47.498	2.546
S.ED		0.624	0.129	0.196	0.261	0.032	0.017	23.827	1.277
S.EM		0.442	0.091	0.139	0.184	0.022	0.012	16.848	0.903
Range	**Max.**	80.75	14.411	20.264	34.592	2.329	0.450	2592.596	36.706
	Min.	68.083	11.844	17.372	29.216	1.885	0.240	1855.742	16.708

Table 2: Mean performance on effect of salinity levels on seed quality parameters of greengram.

Treatments		Germination (%)	Root length (cm)	Shoot length (cm)	Seedling length (cm)	Seedling fresh weight(g)	Seedling dry weight (g)	Seedling vigour index-i	Seedling vigour index-ii
S_0		81.056	13.644	20.306	33.951	2.150	0.447	2478.666	36.398
S_1		75.333	12.849	18.949	31.770	1.978	0.344	2215.785	26.136
S_2		69.611	12.175	16.863	29.029	1.783	0.256	1923.829	17.979
Grand Mean		**75.333**	**12.889**	**18.706**	**31.583**	**1.970**	**0.349**	**2206.093**	**26.838**
CD at 5%		0.719	0.149	0.226	0.300	0.036	0.019	27.423	1.470
S.ED		0.369	0.075	0.113	0.151	0.018	0.010	13.757	0.737
S.EM		0.255	0.053	0.080	0.107	0.013	0.007	9.727	0.521
Range	**Max.**	81.056	13.644	20.306	33.951	2.150	0.447	2478.666	36.398
	Min.	69.611	12.175	16.863	29.029	1.783	0.256	1923.829	17.979

Table 3: Interaction effect of treatments and salinity conditions on seed quality parameters of greengram (*Vigna radiata* L.)

Interaction	Germination (%)	Root length (cm)	Shoot length (cm)	Seedling length (cm)	Seedling fresh weight(g)	Seedling dry weight (g)	Seedling vigour index-i	Seedling vigour index-ii
T_0S_0	75.000	12.403	19.185	31.588	2.020	0.320	2121.290	23.998
T_0S_1	68.500	11.943	17.538	29.480	1.930	0.240	1889.893	16.410
T_0S_2	60.750	11.188	15.393	26.580	1.705	0.160	1556.043	9.715
T_1S_0	82.000	13.965	20.260	34.225	2.193	0.460	2607.008	37.700
T_1S_1	78.250	13.345	19.078	32.423	2.075	0.398	2247.390	31.113
T_1S_2	72.500	12.723	17.215	29.938	1.868	0.268	1947.108	19.385
T_2S_0	86.250	15.050	21.725	36.775	2.510	0.560	2923.853	48.298
T_2S_1	80.750	14.468	20.708	34.925	2.338	0.450	2586.978	36.328
$T2S_2$	75.250	13.715	18.360	32.075	2.140	0.340	2266.958	25.493
T_3S_0	81.250	13.238	20.313	33.550	2.145	0.408	2409.818	33.113
T_3S_1	75.250	12.370	19.030	31.400	1.958	0.315	2187.690	23.730
T_3S_2	70.750	11.925	17.013	28.938	1.785	0.243	1945.560	17.108
T_4S_0	83.750	15.160	20.913	36.073	2.103	0.520	2641.893	43.538
T_4S_1	75.250	13.540	19.648	33.188	1.878	0.388	2357.120	30.033
T_4S_2	70.750	12.693	17.340	30.033	1.703	0.315	2120.260	22.518
T_5S_0	82.000	13.430	20.100	33.530	2.075	0.468	2424.225	38.325
T_5S_1	77.000	12.733	19.058	31.790	1.885	0.335	2191.590	25.773
T_5S_2	71.000	12.238	16.845	29.083	1.685	0.258	1978.240	18.273
T_6S_0	83.250	13.900	20.995	34.895	2.108	0.408	2549.723	33.918
T_6S_1	78.500	13.040	19.430	32.470	1.943	0.308	2340.345	24.128
T_6S_2	71.750	12.390	17.665	30.055	1.720	0.248	2061.075	17.780
T_7S_0	76.750	12.705	19.443	32.148	2.038	0.425	2252.480	32.593
T_7S_1	71.500	12.080	17.930	30.010	1.850	0.305	2019.390	21.785
T_7S_2	66.500	11.228	15.713	26.940	1.650	0.225	1667.945	14.920
T_8S_0	79.250	12.950	19.825	32.775	2.160	0.455	2377.703	36.100
T_8S_1	73.000	12.123	18.120	30.243	1.945	0.355	2121.670	25.930
T_8S_2	67.250	11.475	16.223	27.623	1.790	0.248	1771.273	16.623
Grand Mean	**75.333**	**12.890**	**18.706**	**31.583**	**1.970**	**0.349**	**2206.093**	**26.838**
CD 5%	2.156	0.446	0.678	0.901	0.109	0.058	82.268	4.409
S.ED	1.082	0.224	0.340	0.452	0.055	0.029	41.270	2.212
S.EM	0.765	0.158	0.240	0.320	0.039	0.021	29.182	1.564

CONCLUSION

The results depicts that the performance of untreated control and treatments gradually reduced with the increased salinity stress concentrations; seed priming favors for proper germination and better seedling establishment under salinity stress conditions to a certain extent depending on type of treatment and its dosage.

Interaction of T_2S_0- Panchagavya at 9% for 12 hrs at 0mM NaCl stress levels found to be promising with germination of 86.250%, 36.775 cm seedling length, 2.150 g fresh weight, 0.560 g dry weight, 2923.85 seedling vigour index-i and 48.298 vigour index-ii and can be recommended as a seed primer in green gram under salinity stress conditions.

FUTURE SCOPE

Further research works needed on the combination of organic treatments with different levels salinity stress in field condition.

Conflict of Interest. Nil

REFERENCES

Bairwa, R. K., Nepalia, V., Balai, C. M., Jalwania, R., & Meena, H. P. (2014). Yield and nutrient uptake of summer greengram (*Vigna radiata* L.) under different levels of phosphorus and sulphur fertilizations. *SAARC Journal of Agriculture*, *12*(1): 162-172.

Dharwe, D. S., Dixit, H. S., Dotaniya, C. K., Mohbe, S., & Doutaniya, R. K. (2018). Influences of sulphur on the yield of summer greengram (*Vigna radiata* L.). *Journal of Pharmacognosy and Phytochemistry*, *7*(2): 147-149.

Fisher, R. A. (1936). The correlation between relative on the supposition of genotypes grown in Kumaun Himalaya, *Indian Journal Genetics*, *66*(1): 37-38.

Guo, J., Du, M., Tian, H., & Wang, B. (2020). Exposure to High Salinity During Seed Development Markedly Enhances Seedling Emergence and Fitness of the Progeny of the Extreme Halophyte *Suaeda salsa*. *Front. Plant Sci., 11*: 1291.

Hazzoumi, Z., Moustakime, Y., & Joutei, K. A. (2014). Effect of gibberellic acid (GA), indole acetic acid (IAA) and benzylaminopurine (BAP) on the synthesis of essential oils and the isomerization of methyl chavicol and trans-anethole in *Ocimum gratissimum* L. *Springer Plus*, *3*(1): 321-323.

Kumar, J., Chaurasia, A. K., & Bara, B. M. (2017). Effect of organic priming on germination and vigour of cotton (*Gossypium hirsutum* L.) seed. *Journal of Pharmacognosy and Phytochemistry*, *6*(3), 815-819.

Kumar, S. Hariprabha, S., Kamalakannan, S., Sudhagar, R., & Sanjeevkumar, K. (2020). Effect of Panchagavya on Germination and Seedling Growh of Balsam (*Impatiens Balsamina*).

Khalesro, S., Salehi M. M., & Mahdavi, B. (2015). Effect of humic acid and salinity stress on germination characteristic of savory (*Satureja hortensis* L.) and dragonhead (*Dracocephalum moldavica* L.) *Biological Forum – An International Journal 7*(2): 554-561.

Kokani, J. M., Shah, K. A., Tandel, B. M., & Bhimani, G. J. (2015). Effect of FYM, phosphorus and sulphur on yield of sumeer blackgram and post-harvest nutrient status of soil. *The Bioscan., 10*(1): 379-383.

Mahjabeen Panhwar , Ghulam Hussain Jatoi, Ghulam Jilani, Zameer Ali Palh, Shaharyar Brohi, Shehnaz Panhwar, Sujo Meghwar & Khalid Hussain Lashari (2021). Exogenous Hydrogen Peroxide (H_2O_2) Eustress to Wheat Genotypes Attenuates their Salinity Distress, *International Journal on Emerging Technologies 12*(1): 258-269.

Pandian, P. S., Subramanian, S., Paramasivam, P., & Kumaraswamy, K. (2005). Organic farming in sustaining soil health–A review. *Agricultural Reviews*, *26*(2), 141-147.

Premabatidevi, R. K. (2018). Effect of IAA, moringa leaf extract and curry leaf extract on nitrate reductase and nitrite reductase in the leaves of a tree legume. *Indian J. Plant Physiol., 3:* 97-101.

Shima Alaei, Zahra Moradi Khibary & Amin Ahmadi Rad (2015). Effect of Different Concentration of Salt and PEG Solution on *Dracocephalum moldavica* Seed Germination and Seedling Early Growth, *Biological Forum – An International Journal, 7*(1): 1755-1759.

Subha, S., Rehman G. L., Usha, O. P. & Sirisha, A. (2017). Effect of seed treatment with panchagavya on plant growth, seed yield and seed quality parameters in Bittergourd (*Memordica charantia* L.). *International Journal of current microbiology and Applied sciences, 24* (3): 564-556.

Shehzad, M., Ayub, M., Ahmad, A., & Yaseen, M. (2018). Influence of priming techniques on emergence and seedling growth of forage sorghum (*Sorghum bicolor* L.). *Animal and Plant Sciences*, *22*(1), 154–158.

Singh, S., Lal, G. M., Bara, M., & Mishra, S. N. (2017). Effect of hydropriming and osmopriming on seed vigour and germination of maize (*Zea mays* L.). *Journal of Pharmacognosy and Phyto-chemistry, 6* (3): 820-824.

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