

Review Form 3

Journal Name:	Asian Journal of Soil Science and Plant Nutrition
Manuscript Number:	Ms_AJSSPN_127728
Title of the Manuscript:	Effect of temperatures on potassium adsorption in saline soils within Nineveh Governorate, Iraq
Type of the Article	Research

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This study aims to sustainable agriculture in arid and semi-arid regions by studying and evaluating the impact of thermodynamic reactions to the status and behavior of the potassium element in saline soils under climatic conditions of these environments and through the determination of the degree of fertility of these soils and its provide with valid potassium for uptake by plant and crop grown in such soils under such conditions.	
Is the title of the article suitable? (If not please suggest an alternative title)	Effect of different temperatures on reactions of potassium adsorption and availability in saline soils within Nineveh Governorate, Iraq	

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<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>1- I suggest the addition of some expressions such as adsorption and release of k, saline soils. Also, replace the potassium expression with the k symbol in the keywords part of the abstract section. 2- Other points can be added as follows: a. Availability expression instead of available expression in the first line of the abstract section. b. Nineveh Governorate, Iraq. Each site,...two soil depths (surface and subsurface layer) in the 4th and 5th lines in the same section. c. the amount of potassium added in all the studied soil samples. For the ability of soil to the adsorption, the results showed a sudden increase in the adsorption of potassium at the application of the high levels (1 and 2 mmolL⁻¹) of potassium in all the studied soils. Also, the highest value of the ionic activity of potassium (AR_k) was (14.05 × 10⁻³ molL^{-1/2}), at a temperature of 298 K in the subsurface soil layer of the first site, while the lowest one was (1.61 × 10⁻³ molL^{-1/2}), in the same layer of the first site at a temperature of 278 K. d. The values of free energy of potassium, ΔG_k, in the studied soils, ranged from the highest value, reached (-14.85×10⁻³ kJ) at a temperature of 278 K, to the lowest value, reached (-10.56×10⁻³ kJ) at a temperature of 298 K, in the subsurface soil layer of the first site. Regarding the values of entropy reaction, they ranged from the highest value of -53.43 Jmol⁻¹ in the subsurface soil layer of the first site at a temperature of 278 K to the lowest value of -35.46 in the same layer of the first site at a temperature of 298 K. On the other hand, the enthalpy values of the studied soil samples were negative, which indicates that the reaction is of the exothermic type, where the highest negative value for enthalpy was -29.70 kJmol⁻¹ at a temperature of 278 K in the subsurface soil layer of the first site and the lowest negative value, was -20.42 kJmol⁻¹ in the same layer of the first site at a temperature of 298 K. Note: I suggest adding all the above modifications with red color from the 7th line until the end of the abstract section.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Indeed, it is. But it needs to use and writing some common expressions and measure units of soil chemical and physical properties as shown in the table (1) of methods and materials section, including: 1- Soil depth (cm): 0-25 and 25-50 2- EC (dSm⁻¹) 3- CaCO₃, OM (gkg⁻¹) 4- CEC (cmol_ckg⁻¹) 5- Particle size distribution (%) instead of soil separates (gm.kg⁻¹) Also, the definition of the abbreviation symbols of soil properties under table (1), including: OM: Organic Mater, EC: Electrical Conductivity, CEC: Cation Exchangeable Capacity</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references are sufficient and recent, but there are some comments on references, including: 1- Some references inside the text of this article are not in the references list, or there are wrong to write, including: Appel et al., 2002), Hamed (2017), (Muhammadani, 2008), Ogwada and Sparks (1986), (Schneider et al., 2005), (Sparks, 2002), Strauss and Brummer (1989). 2- It is suitable to write the conjunction 'and' between the authors name in the references list instead of the symbol (&).</p>	
<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>It is suitable.</p>	
<p>Optional/General comments</p>	<p>1-When writing the abbreviation et al., it is preferred to write it with italic font as <i>et al.</i>, 2-There are some author names in the reference list written in light font and others written in bold font, so it is suitable to write all names in bold font before writing the reference title. 3- it can rewrite the title of Table (1) as follows: Table (1): Some physiochemical properties of the studied soils.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p>(If yes, Kindly please write down the ethical issues here in details)</p>	

Reviewer Details:

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