

Review Form 1.6

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_86000
Title of the Manuscript:	Wear resistant Anti-Corrosion nanostructured coating for cultivator shovels
Type of the Article	Original Research Article

General guideline for Peer Review process:

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 guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	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)
Compulsory REVISION comments	<p>Comments</p> <p>In this manuscript the authors studied the wear resistant and anti-corrosion CrN coating for cultivator shovels application. Through DC magnetron sputtering technique CrN coatings were deposited on cultivator reversible shovels. The crystal structure, morphological, hydrophoility and wear property are characterized. It is obtained that the working lifes of the agricultural tools were increased significantly after coated with CrN layer.</p> <p>The CrN coating is searched for many years, and the applications are also wide. The highlight of this article is using CrN coating in agricultural tools. I personally think after revision it can be published.</p> <p>1.this paragraph might be imprecise "Various conventional techniques like electroplating, thermal plasma spraying, sol-gel technique, cathodic arc depostion (CAD), chemical vapour deposition (CVD) ..., but the above mentioned technique are not environmental friendly and coatings exhibit poor properties". Some techniques are environmental friendly, such as CAD, it was mentioned in this paragraph later as an environmental friendly deposition.</p> <p>2.the concepts in this sentence were wrong. "PVD techniques are vacuum evaporation, magnetron sputtering, sputter deposition, arc evaporation, low voltage electron beam evaporation, cathode arc deposition, triode high voltage electron beam evaporation and ion planting." Normally we cataloged them as sputtering and evaporation. They can be cataloged, for example, as direct sputtering, magnetron sputtering, RF sputtering, and HiPIMS.....</p> <p>3. what were the CrN thickness at these three temperatures?</p> <p>4.what was the size of droplet? How much points were averaged for every WCA?</p> <p>5. why the hardness of the samples at different deposition temperature were same?</p> <p>6.pls add the results of adhesiveness</p> <p>7.WCA> 100 is not hydrophilic, so this sentence "which confirms that CrN coating was hydrophilic in nature" shall be wrong</p> <p>8. what was the different and the relation between "Wear rate in shovels with different substrate temperature coating at different working period.' and "Cumulative wear in shovels with different substrate temperature coating at different working period."</p> <p>9. Fig. 1, pls add the standard CrN pattern JCPDS 11-0065 in the figure</p> <p>10.Fig. 2 pls add the size bar in the SEM images</p> <p>11. why can we find the results in anti-corrosion?</p>	
Minor REVISION comments		
Optional/General comments		

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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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