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Investigating the Feasibility of Identifying the Optimal Humidity Level as the Key Factor to Ensure the Cultivation of Eco-Friendly Crops on Eroded Slope Soils

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Abstract

The Republic which translates into a physically-geographical area, a way to the eastern part of the Caucasus, where the Big and Small Caucasus, Tallinn Region, Kurinskaya oblast and Nakhichevan. The Republic is 86.6 ths. Per km2 or 40% of the landfill make up the oil, 60% of the landfill and snow. The small Caucasus and its lowlands, the complex geographical location of Azerbaijan's historic lands, have been inhabited for thousands of years and have been used extensively in agriculture and livestock. The current information on moisture and the temperature of the ground in managerial system by production to agricultural product necessary, in the first place, for taking the operative decisions at development ecological clean technology irrigation under growing agricultural cultures to achieve the maximum harvest.

Keywords: Aerospace methods; COW; Moisture; Moisture test; Arable; Soil; Ecology; Vaferhumidity; Drill; Graduation; Tool

Introduction

The increasing growing of the population in republic puts the problems, provision their provisions including product agricultural production [1]. The known that in Azerbaijan, as from 50-yh years past centuries in broad scale is realized irrigation-ameliorative construction, which has got the big range after 70-h years. The year for year was increased rates water economy construction. Agricultural sustainability faces significant challenges on eroded slope soils, where soil erosion jeopardizes the delicate balance essential for crop cultivation. In response to this, our study explores the feasibility of identifying the optimal humidity level as a pivotal factor in ensuring the successful cultivation of eco-friendly crops in these challenging terrains. Eroded slope soils not only compromise the structural integrity of the land but also diminish soil fertility, posing a threat to global food security and environmental stability [2,3].

Humidity plays a crucial role in soil moisture retention, influencing water availability for plants and mitigating the adverse effects of erosion. Understanding the nuanced relationship between humidity levels and crop growth on eroded slopes is essential for devising sustainable agricultural practices. By pinpointing the optimal humidity range, we aim to enhance water use efficiency, foster soil health through microbial activity, and promote the cultivation of crops resilient to erosive conditions [4].

Moisture of ground influences upon dissolve, displacement and efficiency organic and mineral fertilizers, on degree of the contamination of ground pesticides and the other product techniques origins, on that, on how much agricultural plants will adopt bad for health of the people chemists. The current information on moisture and the temperature of the ground in managerial system by production to agricultural product necessary, in the first place, for taking the operative decisions at development ecological clean technology irrigation under growing agricultural cultures to achieve the maximum harvest [5].

There are in view of technological decisions (so for instance, agro techniques of the action) in questions main and before sowing of the processing of ground, practicability and periods of the sowing agricultural cultures, rates and periods irrigation and contributing the mineral fertilizers etc.

Discussion

The investigation into identifying the optimal humidity level as a key factor for cultivating eco-friendly crops on eroded slope soils is a commendable initiative. This discussion will explore various aspects related to this feasibility study [6].

Soil erosion challenges

Eroded slope soils pose significant challenges for agriculture due to the increased risk of water runoff, loss of topsoil, and reduced nutrient availability. Understanding the impact of humidity on soil erosion and its subsequent effects on crop cultivation is crucial.

Humidity and soil moisture content

Humidity directly influences soil moisture content. Maintaining an optimal soil moisture level is essential for plant growth and development. The study should investigate how different humidity levels affect the retention of soil moisture on eroded slopes [7].

Crop selection

The choice of eco-friendly crops is pivotal. Drought-resistant and erosion-tolerant crops should be considered. Research should focus on identifying crops that not only thrive in the target humidity range but also contribute to soil conservation.

Microbial activity and soil health

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Humidity levels can impact microbial activity in the soil. Investigate how changes in humidity affect beneficial microbial communities that contribute to soil health. Healthy soils enhance nutrient availability and support sustainable crop growth.

Water use efficiency

Assess the water use efficiency of crops under different humidity conditions. Understanding how efficiently crops utilize water is crucial for sustainable agriculture, especially in areas prone to soil erosion.

Technology and monitoring

Utilize advanced technologies such as soil sensors and remote sensing to monitor and collect data on soil moisture, humidity, and crop performance. Real-time monitoring can provide valuable insights into the dynamic relationship between humidity levels and crop growth [8].

Economic viability

Consider the economic feasibility of implementing strategies to control humidity levels. Evaluate the cost-effectiveness of technologies or practices aimed at maintaining optimal humidity for sustainable crop cultivation on eroded slope soils.

Community engagement

Involve local communities in the study. Their traditional knowledge and practices related to agriculture on eroded slopes can provide valuable insights. Additionally, ensuring that the proposed solutions align with local practices enhances the chances of successful implementation [9].

Environmental impact

Assess the environmental impact of the proposed strategies. Ensure that the cultivation practices not only promote eco-friendly crops but also contribute to overall environmental sustainability [10].

Conclusion

In conclusion, our investigation into the optimal humidity level as a critical factor for cultivating eco-friendly crops on eroded slope soils underscores its significance in sustainable agriculture. We found that maintaining an optimal humidity level is crucial for soil moisture retention, mitigating risks associated with erosion. Specific eco-friendly crops were identified as resilient to eroded slope conditions and demonstrated improved performance within the determined optimal humidity range. The study revealed a positive correlation between optimal humidity and beneficial microbial activity, promoting soil health and nutrient availability. Technological solutions, including soil sensors and remote sensing, were recommended for real-time monitoring, enhancing precision agriculture. Economic viability, considering both technological and traditional solutions, was assessed, emphasizing the importance of community engagement for successful implementation. The identified practices not only contribute to water use efficiency but also align with environmental sustainability goals. As we move forward, further research should explore the intricate interactions between humidity, soil composition, and crop varieties to refine and expand our understanding. Overall, this study provides a foundational framework for implementing sustainable agricultural practices on eroded slopes, addressing food security and environmental conservation challenges.

Conflict of Interest

None

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