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Wind pumps for irrigating greenhouse crops: comparison in different socio-economical frameworks

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Wind power can play an interesting role in irrigation projects in different areas. A simple methodology has been developed in previous papers for technical evaluation of windmills for irrigation water pumping [1]. This methodology can determine the feasibility of the technology and the levels of daily irrigation demand satisfied by windmills at different levels of risk, using tomato (Lycopersicon esculentum Mill) as greenhouse crop.

The present work compared the feasibility of the technology and the critical factors involved in three different countries: Cuba, Spain and Pakistan. The study considered as factors the wind speed level, the energy cost, the tomato prices, the reliability and distance to the electrical grid, and the crop development dates, determining the economic feasibility for each combination of factors in each country. Countries have been selected because of their different socio-economical frameworks, leading to different critical factors.

References

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