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Influence of Citrus Peel Extract on Xylanase Enzyme Activity: Implications for crop growth

Our study investigates the effect of orange peel extract on the activity of xylanase enzyme, aiming to evaluate the potential of orange peel as a stimulant component in enzyme formulations for enhancing the growth of commercially important crops. Xylanase plays a critical role in the breakdown of hemicellulose, thereby improving nutrient availability and soil health. Orange peel, a readily available agricultural waste product, is rich in bioactive compounds such as flavonoids, essential oils, and polyphenols, which may influence enzymatic activity. The present research involves preparing an aqueous extract of orange peel and assessing its impact on purified xylanase activity through standard enzyme assays. The objective is to determine whether the extract acts as an activator or inhibitor of xylanase, providing insight into its potential use as a natural bio stimulant in agriculture. By exploring the interaction between orange peel extract and xylanase, the study aims to identify sustainable and cost-effective methods to boost enzyme efficiency for crop growth enhancement. The findings could contribute to developing eco-friendly agricultural inputs, utilizing citrus waste to support crop productivity. Further experimental results and analysis will clarify the role of orange peel extract on xylanase enzyme activity and its practical implications in agriculture

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