ABSTRAK

KELAYAKAN FINANSIAL BUDIDAYA MELON HIDROPONIK DENGAN TEKNOLOGI EQUANIK

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Keterbatasan lahan pertanian mendorong munculnya inovasi budidaya hortikultura secara hidroponik, termasuk pada komoditas melon. Meskipun teknologi seperti eQuaNik mampu memaksimalkan produksi di lahan terbatas, penerapannya memerlukan biaya investasi yang tidak sedikit. Penelitian ini bertujuan untuk menganalisis biaya investasi dan biaya operasional, menganalisis kelayakan finansial budidaya melon hidroponik dengan teknologi eQuaNik, serta menganalisis sensitivitas kelayakan terhadap perubahan penurunan produksi, perubahan biaya operasional dan perubahan harga jual. Lokasi penelitian ditentukan secara *purposive*. Penelitian ini dilaksanakan pada bulan November 2024 hingga Juli 2025. Kriteria investasi yang digunakan meliputi *Net Present Value* (NPV), *Internal Rate of Return* (IRR), *Net Benefit Cost Ratio* (Net B/C), dan *Payback Period* (PP), dengan proyeksi selama sepuluh tahun. Hasil penelitian menunjukkan bahwa biaya investasi awal mencapai Rp 402.522.500 dan biaya operasional tahunan sebesar Rp 112.105.500. Berdasarkan hasil analisis, proyek dinyatakan layak secara finansial dengan nilai NPV Rp 346.798.251, IRR 27,86 persen, Net B/C sebesar 1,86, dan PP 3 tahun 5 bulan. Analisis sensitivitas menunjukkan bahwa proyek tidak peka terhadap perubahan penurunan produksi, perubahan biaya operasional yang mencakup pembinaan hanya sampai tahun ketiga dan promosi dua tahun sekali, serta perubahan harga jual melalui penjualan sepenuhnya ke *end user* maupun ke tim eQuaNik Agri Nusantara dengan penurunan harga hingga 36 persen. Namun, pada penurunan harga sebesar 40 persen, proyek menjadi tidak layak, yang menunjukkan adanya sensitivitas terhadap perubahan harga jual.

Kata kunci: eQuaNik, finansial, hidroponik, melon, sensitivitas

ABSTRACT

FINANCIAL FEASIBILITY OF HYDROPONIC MELON CULTIVATION USING EQUANIK TECHNOLOGY

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The limitation of agricultural land has driven the emergence of innovative horticultural cultivation techniques, including hydroponic melon cultivation. Although technologies such as eQuaNik can maximize production on limited land, its implementation requires significant investment costs. Therefore, this study aims to analyze investment costs and operational costs, analyze the financial feasibility of hydroponic melon cultivation with eQuaNik technology at Al-Multazam Smart Farm, and test the sensitivity of feasibility to changes in selling prices, changes in operational costs and production levels. The research location was purposively selected. This study was conducted from November 2024 to July 2025. The investment criteria used include Net Present Value (NPV), Internal Rate of Return (IRR), Net Benefit Cost Ratio (Net B/C), and Payback Period (PP), with a 10-year projection. The research results show that the initial investment cost reached IDR 402.522.500, with annual operational costs amounting to IDR 112,105,500. Based on the analysis, the project is declared financially feasible, with an NPV of Rp 346.798.251, IRR of 27,86 percent, Net B/C of 1,86, and a PP of 3 years and 5 months. Sensitivity analysis shows that the project is not sensitive to changes in production decline, changes in operational costs that include coaching only until the third year and promotions every two years, and changes in selling prices through full sales to end users or to the eQuaNik Agri Nusantara team with a price decrease of up to 36 percent. However, at a price decrease of 40 percent, the project becomes unfeasible, indicating sensitivity to changes in selling prices.

Keywords: eQuaNik, financial, hydroponic, melon, sensitivity