REFERENCES

[1] Abu Sneineh A, Shabaneh AAA. Design of a smart hydroponics monitoring system using an ESP32 microcontroller and the Internet of Things. *MethodsX* 2023; 11: 102401.

[2] Prathap R, Krupavathi K, Reddy KM, et al. Design and Development of Automated Nutrient Regulation System for Hydroponics Unit. *Environment and Ecology* 2024; 42: 1105–1112.

[3] Nguyen HC, Thi BTV, Ngo QH. Automatic Monitoring System for Hydroponic Farming: IoT-Based Design and Development. *Asian Journal of Agriculture and Rural Development* 2022; 12: 210–219.

[4] Morchid A, Said Z, Abdelaziz AY, et al. Fuzzy logic-based IoT system for optimizing irrigation with cloud computing: Enhancing water sustainability in smart agriculture. *Smart Agricultural Technology* 2025; 11: 100979.

[5] Baiyin B, Tagawa K, Yamada M, et al. Study on Plant Growth and Nutrient Uptake under Different Aeration Intensity in Hydroponics with the Application of Particle Image Velocimetry. *Agriculture* 2021; 11: 1140.

[6] Duangpakdee K, Thananta G, Sukpancharoen S. IoT enhanced deep water culture hydroponic system for optimizing Chinese celery yield and economic evaluation. *Smart Agricultural Technology* 2024; 9: 100545.

[7] Kushawaha A, Shah D, Vora D, et al. Urban small-scale hydroponics: A compact, smart home-based hydroponics system. *MethodsX* 2024; 13: 102998.

[8] Fanani MR, Hariono T. SISTEM OTOMATIS PENGENDALI NUTRISI TANAMAN HIDROPONIK BERBASIS ARDUINO MENGGUNAKAN SENSOR TDS. *Exact Papers in Compilation (EPiC)* 2021; 3: 447–452.

[9] Hakam AFA, Puriyanto RD. Automatic Liquid Filling in Deep Water Culture Hydroponic System Based on Water Level and TDS Meter Value. *Buletin Ilmiah Sarjana Teknik Elektro* 2023; 4: 111–121.

[10] Baharrudin, Jaya TP, Yusuf R. Improing Growth and Yield of Pakcoy Plants (Brassica Rapa L.) gworing under Hydroponic systim. Atlantis Press, pp. 148–152.

[11] Lumban Toruan PLT, Margareta B, Jumarni A, et al. PENGARUH TEMPERATUR AIR TERHADAP KONDUKTIVITAS DAN TOTAL DISSOLVED SOLID. *j kumparan fis j teach phys* 2023; 6: 11–16.

[12] Ramsari N, Hidayat T. Monitoring System and Hydroponic Plant Automation Using Microcontroller Internet of Things Based (IoT). *Compiler* 2022; 11: 59–74.