

SUPPLEMENTARY MATERIAL

Stage temperature boosting in solar membrane distillation systems for agricultural wastewater treatment using waste heat recovery

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Table S1. Detailed run log with calendar dates, ambient temperature and wind speed at start/mid/end of each run, and daily irradiance summaries

Run ID	Date	Mode	Irradiance category	Ambient temperature (°C)			Wind speed (m·s ⁻¹)			Daily average irradiance	Peak irradiance
				start	mid	end	start	mid	end		
R01	March 15, 2024	baseline	high	18.2	24.5	22.1	2.1	3.4	2.8	847	911
R02	March 18, 2024	baseline	high	19.1	25.8	23.4	1.8	2.9	2.3	862	921
R03	March 22, 2024	baseline	high	17.8	23.9	21.7	2.3	3.1	2.6	834	895
R04	April 05, 2024	boosted	high	20.3	27.2	25.1	2.0	3.2	2.7	851	906
R05	April 08, 2024	boosted	high	21.5	28.4	26.3	1.9	2.8	2.4	869	928
R06	April 12, 2024	boosted	high	19.7	26.8	24.6	2.2	3.0	2.5	843	902
R07	May 10, 2024	baseline	low	16.3	19.8	18.5	3.5	4.8	4.1	387	485
R08	May 14, 2024	baseline	low	15.8	18.9	17.6	3.8	5.2	4.6	362	467
R09	May 17, 2024	baseline	low	17.1	20.5	19.2	3.2	4.5	3.9	412	492
R10	May 24, 2024	boosted	low	16.8	20.2	19.0	3.4	4.7	4.0	395	478
R11	May 28, 2024	boosted	low	15.5	18.7	17.4	3.9	5.3	4.7	368	461
R12	June 01, 2024	boosted	low	17.5	21.0	19.7	3.1	4.4	3.7	408	489

Explanations: all experimental runs conducted from 08:00 to 16:00 local time (8 continuous hours). High-irradiance conditions defined as average >800 W·m⁻²; low-irradiance conditions defined as average <500 W·m⁻²; each run performed in triplicate ($n = 3$); ambient temperature and wind speed measured at run start (08:00), midpoint (12:00), and end (16:00).

Source: own study.