

**Table 1.** Soil moisture measurement results and error percentage

Iteration	Mass Soil	Water	YL-69	Reference	Difference	Error Rate
n	(Gram)	Volume (mL)	Sensor (%)	Sensor (%)		
1	100	0	10	10	0	0
2	100	10	54	55	1	1,818182
3	100	20	70	75	5	6,666667
4	100	30	80	78	2	2,564103
5	100	40	69	69	0	0
6	100	50	77	70	7	10
7	100	60	68	69	1	1,449275
8	100	70	67	65	2	3,076923
9	100	80	69	70	1	1,428571
10	100	90	69	69	0	0
<b>Average Error Rate</b>						<b>2.7%</b>

**Table 2.** Sensor pH measurement results and error percentage

Iteration	Mass Soil	Volume of	pH Sensor	pH Reference	Difference	Error Rate
n	(Gram)	Base Solution	Kilap (%)	Sensor (%)		
		(mL)				
1	200	20	8.8	9.0	0.2	2.22%
2	200	40	9.1	9.0	0.1	1.11%
3	200	60	9.6	9.0	0.6	6.67%
<b>Average Error Rate</b>						<b>3.33%</b>

**Table 3.** Experimental data on the accuracy of irrigation time

Iteration	Irrigation Schedule	Actually Irrigation Time	Soil Condition Before Irrigation		Soil Condition After Irrigation	
			Moisture (%)	pH	Moisture (%)	pH
1	Monday, 3 June 2025 (15:20:00)	Monday, 3 June 2025 (15:20:02)	74	12.69	89	12.69
2	Monday, 3 June 2025 (16:41:00)	Monday, 3 June 2025 (16:41:02)	55	12.69	80	12.69
3	Monday, 3 June 2025 (16:48:00)	Monday, 3 June 2025 (16:48:02)	64	12.69	77	4.37
4	Monday, 3 June 2025 (17:07:00)	Monday, 3 June 2025 (16:07:02)	52	12.69	73	6.85
5	Monday, 3 June 2025 (17:11:00)	Monday, 3 June 2025 (17:11:02)	54	12.69	74	12.69
6	Wed, 4 June 2025 (19:43:00)	Wed, 4 June 2025 (19:43:02)	62	4.04	70	4.51
7	Wed, 4 June 2025 (19:50:00)	Wed, 4 June 2025 (19:50:02)	66	5.08	71	5.33
8	Wed, 4 June 2025 (19:57:00)	Wed, 4 June 2025 (19:57:02)	68	4.78	70	4.37
9	Wed, 4 June 2025 (20:08:00)	Wed, 4 June 2025 (20:08:02)	68	6.73	79	6.85
10	Wed, 4 June 2025 (20:13:00)	Wed, 4 June 2025 (20:13:02)	66	7.03	73	7.06