



Reference Evapotranspiration Report

Generated on 5/1/2025

Flaha Agri Tech - Professional Agricultural Solutions

Location: Not specified**Date of Calculation:** 5/1/2025**Weather Conditions:** Temperature: 20.4°C, Wind Speed: 5.7 m/s, Relative Humidity: 62%

Reference Evapotranspiration (ETo) Calculation

FAO Penman-Monteith Method

Date: 5/1/2025

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Input Parameters

Mean Temperature	T	20.40 °C
Wind Speed	u ₂	5.70 m/s
Relative Humidity	RH	62 %
Elevation	z	11 m
Latitude	φ	25.62 °
Day of Year	J	5 day
Sunshine Duration	n	8.0 hours

Radiation Parameters

Inverse Relative Distance	dr	1.03288 -
Solar Declination	δ	-0.39452 radians
Sunset Hour Angle	ω _s	1.36981 radians
Extraterrestrial Radiation	R _a	22.83 MJ m ⁻² d ⁻¹
Daylight Hours	N	10.46 hours
Solar Radiation	R _s	14.43 MJ m ⁻² d ⁻¹
Clear Sky Solar Radiation	R _{so}	17.13 MJ m ⁻² d ⁻¹

Evapotranspiration Calculation

Net Shortwave Radiation	R_{ns}	11.11 MJ m ⁻² d ⁻¹
Net Longwave Radiation	R_{nl}	4.86 MJ m ⁻² d ⁻¹
Net Radiation	R_n	6.26 MJ m ⁻² d ⁻¹
Soil Heat Flux	G	0.00 MJ m ⁻² d ⁻¹
Saturation Vapor Pressure	e_s	2.397 kPa
Actual Vapor Pressure	e_a	1.486 kPa
Slope of Vapor Pressure Curve	Δ	0.1479 kPa/°C
Psychrometric Constant	γ	0.6802 kPa/°C
Reference ET ₀	ET ₀	5.22 mm/day

Final Result

Reference Evapotranspiration	ET ₀	5.22 mm/day
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This calculation sheet is generated by Flaha Calc - ETo Calculator

Calculation based on FAO Penman-Monteith method as described in FAO Irrigation and Drainage Paper No. 56

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