Water Quality Report for Irrigation
EFMA Primary Network

EDIA Empresa de Desenvolvimento e Infra-estruturas do Alqueva, S.A.

Lab results Responsible Laboratory: ALS Life Sciences Portugal, S.A. Parameters	(Bulletin nº 196965/2025) Units	 Results	Water Quality for Irrigation (annex XVI, DL n.º 236/98) Conformity
Alkalinity	mg/L CaCO3	111	
Ammonium	mg/L NH4	0,046	
Nitrogen Kjeldahl	mg/L N	0,65	
Total Nitrogen	mg/L N	0,54	
Bicarbonates	mg/L CO3H-	135	(a)
Boron	mg/L B	0,0271	🟢
Calcium	mg/L Ca	32,7	
Chloride	mg/L Cl	48	🟢
Total Hardness	mg/L CaCO3	144	
Dissolved Iron	mg/L Fe	0,004	🟢
Phosphates	mg/L P2O5	0,11	
Total Phosphorus	mg/L P	0,048	
Magnesium	mg/L Mg	15,1	
Manganese	mg/L Mn	0,0277	🟢
Nitrates	mg/L NO3	<L.Q. 2	🟢
Nitrites	mg/L NO2	0,0109	
Potassium	mg/L K	5,72	
Ratio of Sodium Absorption (SAR)		1,05	🟢
Ratio of Sodium Absorption adjusted (SARaj)		1,1	
Sodium	mg/L Na	29	
Total Dissolved Solids (TDS)	mg/L	282	🟢
Total Suspended Solids (TSS)	mg/L	8,5	🟢
Sulphates	mg/L CO4	33,6	🟢
Total Coliforms	UFC/100 mL	160	
Fecal Coliforms	UFC/100 mL	130	🔴

Note: With the exception of the SARaj parameter, test to determine the remaining parameters are included in the range of laboratory accreditation.

Field Results (Determined with a multiparameter probe) Parameters	 Units	 Results	Water Quality for Irrigation (annex XVI, DL n.º 236/98) Conformity
Temperature	ºC	20,6	
pH	Escala Sorensen	8,40	🟢
Conductivity	µS/cm	457	🟢

🟢 Lower than the VMR (Maximum Value Recommended).
🟡 Higher than VMR and below the VMA (Maximum Permitted Value).
🔴 Higher than VMR. For this parameter is not defined one VMA.
🔴 Higher than the VMA.

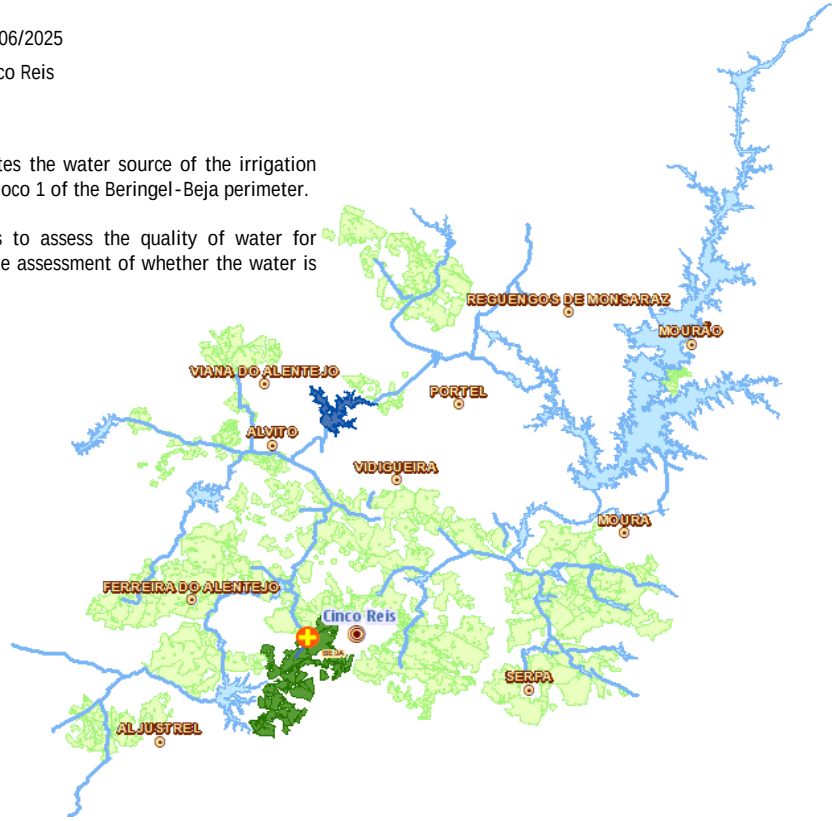
(a) In the Integrated Production Standards, the previously recommended value for bicarbonates, in most crops, was 90 mg/L.

Sampling Data: 04/06/2025

Sampling Place: Cinco Reis

Benefited areas:
The reservoir of Cinco Reis constitutes the water source of the irrigation perimeter Cinco Reis-Trindade and Bloco 1 of the Beringel-Beja perimeter.

The EDIA monitoring program aims to assess the quality of water for irrigation, and does not allow for the assessment of whether the water is suitable for any other use.



Comments:
The fecal coliform result exceeds the Maximum Recommended Value for irrigation water (VMR: 100 NMP/100mL). A Maximum Admissible Value (VMA) has not been defined for this parameter. The fecal coliform results tend to be lower than the legal limit for irrigation water, with the result in the other two campaigns carried out in 2024 being much lower (January 2024: 3 CFU/100 mL and March 2024: 0 CFU/100 mL). The main problem associated with the presence of fecal coliforms in irrigation water is related to the irrigation of crops for direct consumption.
The bicarbonates results are higher than the maximum value previously recommended in the Integrated Production Standards. High concentrations of bicarbonates can affect crop yields, making it difficult to absorb some mineral nutrients.
The results of the remaining elements are within the range of expected values for this typology of water bodies.
In the document "*Water Quality - Complementary Information*", EDIA recommends some general measures to reduce the concentration of salts in the water bodies.