

Water Quality Report for Irrigation

EFMA Primary Network

Lab results			Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	
Responsible Laboratory: ALS Life Sciences Portugal, S.A.			(Bulletin n.º 234849/2024)
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO ₃	132	
Ammonium	mg/L NH ₄	0,064	
Nitrogen Kjeldahl	mg/L N	0,62	
Total Nitrogen	mg/L N	0,93	
Bicarbonates	mg/L CO ₃ H-	162	(a)
Boron	mg/L B	0,0273	●
Calcium	mg/L Ca	40	
Chloride	mg/L Cl	57,8	●
Total Hardness	mg/L CaCO ₃	173	
Dissolved Iron	mg/L Fe	<L.Q.	0,010 ●
Phosphates	mg/L P ₂ O ₅	0,054	
Total Phosphorus	mg/L P	0,023	
Magnesium	mg/L Mg	17,8	
Manganese	mg/L Mn	0,0205	●
Nitrates	mg/L NO ₃	<L.Q.	2 ●
Nitrites	mg/L NO ₂	0,0451	
Potassium	mg/L K	6	
Ratio of Sodium Absorption (SAR)		1,128	●
Ratio of Sodium Absorption adjusted (SARaj)		1,186	
Sodium	mg/L Na	34,1	
Total Dissolved Solids (TDS)	mg/L	293	●
Total Suspended Solids (TSS)	mg/L	4,6	●
Sulphates	mg/L CO ₄	39,9	●
Total Coliforms	UFC/100 mL	1300	
Fecal Coliforms	UFC/100 mL	2200	●

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)			Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	
Temperature	°C	22,9	
pH	Escala Sorensen	8,2	●
Conductivity	µS/cm	538	●

- 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.

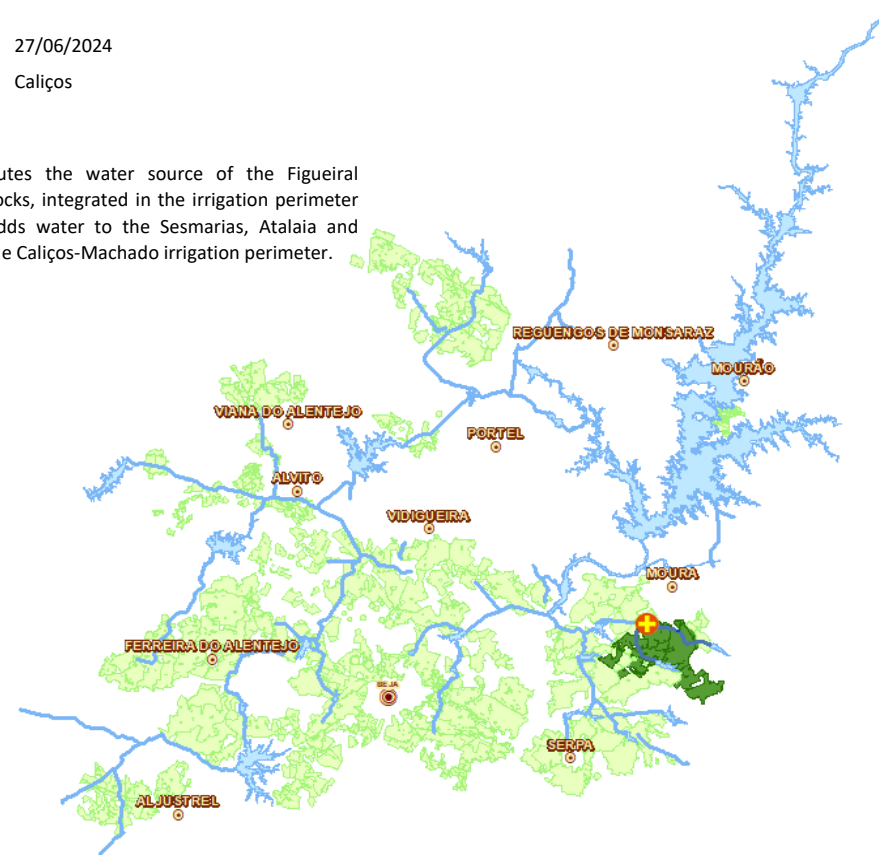
(a) The maximum value recommended in the Integrated Production Standards, for most crops, is 90 mg / L.

Sampling Data: 27/06/2024

Sampling Place: Caliços

Benefited areas:

The Caliços reservoir constitutes the water source of the Figueiral Gravítico and Pias Gravítico blocks, integrated in the irrigation perimeter of Pias. This reservoir also adds water to the Sesmarias, Atalaia and Panasco blocks, integrated in the Caliços-Machado irrigation perimeter.



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: 0 CFU/100 mL and March 2024: 3 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 bicarbonate values exceed the maximum value 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.