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

Water Quality Report for Irrigation
EFMA Primary Network

Lab results Responsible Laboratory: ALS Life Sciences Portugal, S.A. Parameters	(Bulletin nº 32105/2024) Units		Results	Water Quality for Irrigation (annex XVI, DL n.º 236/98) Conformity
Alkalinity	mg/L CaCO3		128	
Ammonium	mg/L NH4		0,038	
Nitrogen Kjeldahl	mg/L N		1,26	
Total Nitrogen	mg/L N		1,01	
Bicarbonates	mg/L CO3H-		157	(a)
Boron	mg/L B		0,0284	🟢
Calcium	mg/L Ca		42	
Chloride	mg/L Cl		78	🔴
Total Hardness	mg/L CaCO3		193	
Total Iron (b)	mg/L Fe		0,063	🟢
Phosphates	mg/L P2O5		0,066	
Total Phosphorus	mg/L P		0,029	
Magnesium	mg/L Mg		21,4	
Manganese	mg/L Mn		0,0057	🟢
Nitrates	mg/L NO3	<L.Q.	2	🟢
Nitrites	mg/L NO2		0,0457	
Potassium	mg/L K		6,8	
Ratio of Sodium Absorption (SAR)			1,364	🟢
Ratio of Sodium Absorption adjusted (SARaj)			1,438	
Sodium	mg/L Na		43,5	
Total Dissolved Solids (TDS)	mg/L		358	🟢
Total Suspended Solids (TSS)	mg/L		6,4	🟢
Sulphates	mg/L CO4		46,9	🟢
Total Coliforms	UFC/100 mL		21	
Fecal Coliforms	UFC/100 mL		16	🟢

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	13,4	
pH	Escala Sorensen	8,4	🟢
Conductivity	µS/cm	617	🟢

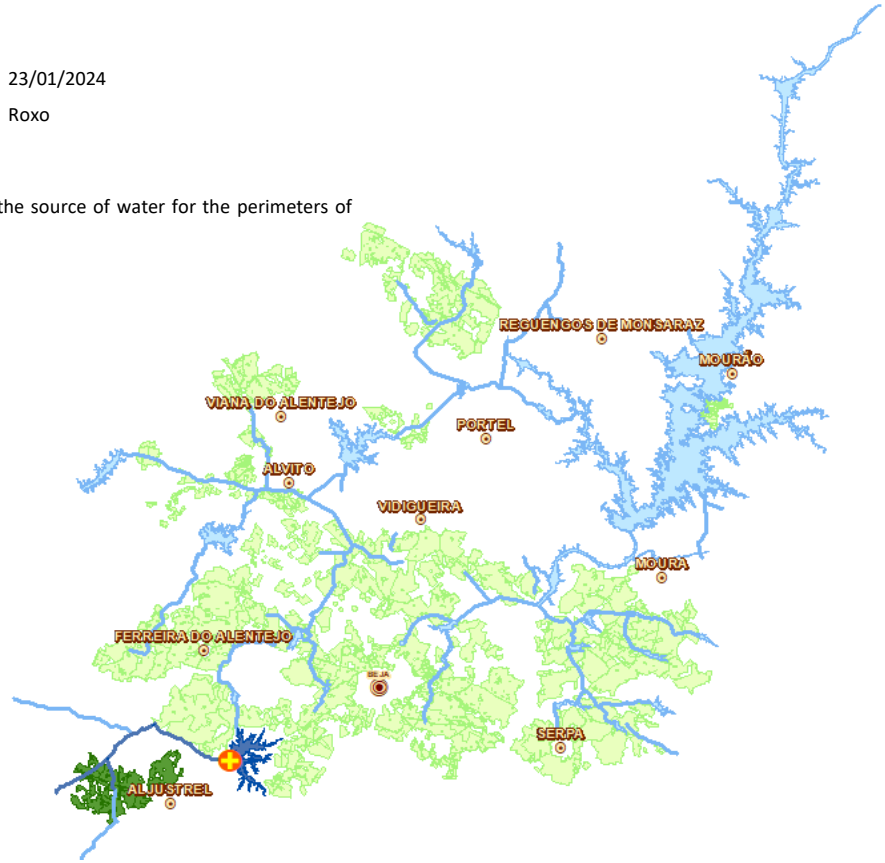
🟢 Lower than the VMR (Maximum Value Recommended).
🟡 Higher than VMR and below the VMA (Maximum Permitted Value).
🔴 Higher than VMR. For this parameter is not defined one VMA.
🔴 Higher than the VMA.

(a) The maximum value recommended in the Integrated Production Standards, for most crops, is 90 mg / L.
(b) The VMA in Annex XVI of the Decree-Law nº 236/98 refers to the dissolved iron (5 mg/L Fe).

Sampling Data: 23/01/2024

Sampling Place: Roxo

Benefited areas:
The Roxo reservoir constitutes the source of water for the perimeters of Aljustrel and Roxo-Sado.



Comments:
Chlorides exceed the VMR for irrigation (70 mg / L) and may originate from natural land drainage or agricultural runoff. At high concentrations they may be toxic to plants and cause deflocculation of soil clays, degrading their structure.
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.