Water Quality Report for Irrigation
EFMA Primary Network

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

Lab results Responsible Laboratory: ALS Life Sciences Portugal, S.A.	(Bulletin nº 196964/2025)		Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO3	113	
Ammonium	mg/L NH4	0,053	
Nitrogen Kjeldahl	mg/L N	0,56	
Total Nitrogen	mg/L N	0,53	
Bicarbonates	mg/L CO3H-	138	(a)
Boron	mg/L B	0,0283	🟢
Calcium	mg/L Ca	33,6	
Chloride	mg/L Cl	47,6	🟢
Total Hardness	mg/L CaCO3	150	
Dissolved Iron	mg/L Fe	0,036	🟢
Phosphates	mg/L P2O5	0,15	
Total Phosphorus	mg/L P	0,064	
Magnesium	mg/L Mg	16,2	
Manganese	mg/L Mn	0,0144	🟢
Nitrates	mg/L NO3	<L.Q. 2	🟢
Nitrites	mg/L NO2	<L.Q. 0,01	
Potassium	mg/L K	6,18	
Ratio of Sodium Absorption (SAR)		1,1	🟢
Ratio of Sodium Absorption adjusted (SARaj)		1,11	
Sodium	mg/L Na	31,1	
Total Dissolved Solids (TDS)	mg/L	251	🟢
Total Suspended Solids (TSS)	mg/L	<L.Q. 3	🟢
Sulphates	mg/L CO4	32,6	🟢
Total Coliforms	UFC/100 mL	0	
Fecal Coliforms	UFC/100 mL	0	🟢

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	Conformity
Temperature	ºC	24,3	
pH	Escala Sorensen	8,90	🟡
Conductivity	µS/cm	440	🟢

🟢 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.

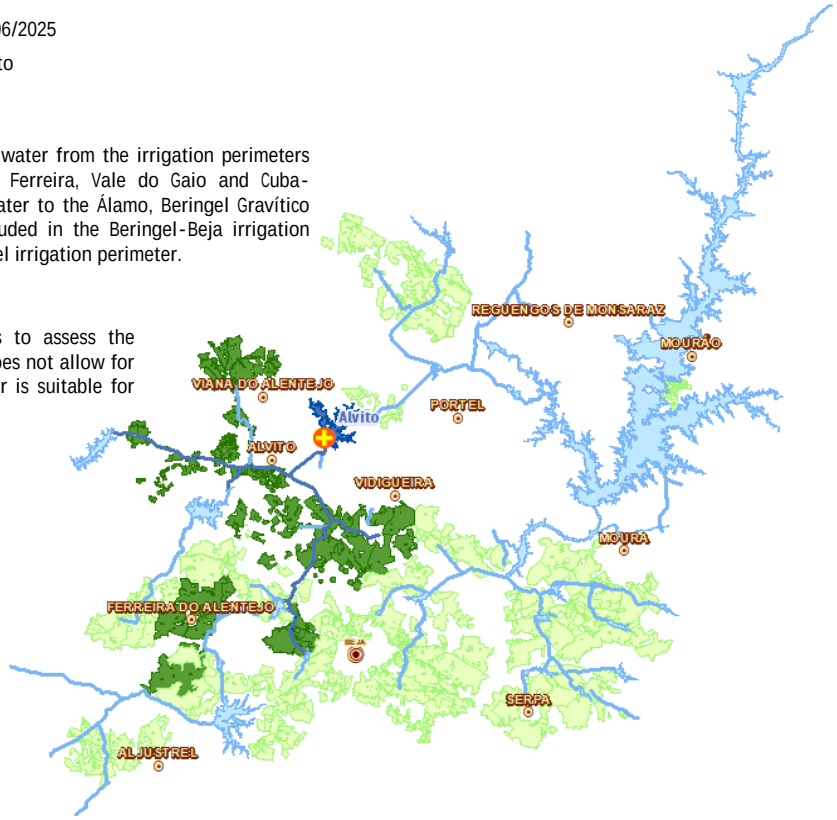
(a) In the Integrated Production Standards, the previously recommended value for bicarbonates, in most crops, was 90 mg/L.

Sampling Data: 04/06/2025

Sampling Place: Alvito

Benefited areas:
The Alvito reservoir is the source of water from the irrigation perimeters of Viana do Alentejo, Alvito-Pisão, Ferreira, Vale do Gaio and Cuba-Odivelas. This reservoir also adds water to the Álamo, Beringel Gravítico and Beringel Elevatório blocks, included in the Beringel-Beja irrigation perimeter and to Bloco 1 of the Ervidel irrigation 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 pH result exceeds the Recommended Maximum Value range for water quality for irrigation (VMR: [6.5-8.4]). This may be due to an increase in the biological activity of algae. High pH values can affect the plant's ability to absorb nutrients and promote the precipitation of iron, calcium, magnesium and phosphate ions, which may promote the clogging of drip irrigation systems.
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.