

Water Quality Report for Irrigation

EFMA Primary Network

Lab results			Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Responsible Laboratory: Cesab (Bulletin n.º 242/22)			
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO ₃	126	
Ammonium	mg/L NH ₄	0,089	
Nitrogen Kjeldahl	mg/L N	0,58	
Total Nitrogen	mg/L N	0,75	
Bicarbonates	mg/L CO ₃ H-	154	(a)
Boron	mg/L B	0,0234	●
Calcium	mg/L Ca	37,4	
Chloride	mg/L Cl	56,3	●
Total Hardness	mg/L CaCO ₃	154	
Total Iron (b)	mg/L Fe	0,092	●
Phosphates	mg/L P ₂ O ₅	<LQ	0,007
Total Phosphorus	mg/L P	0,013	
Magnesium	mg/L Mg	18,6	
Manganese	mg/L Mn	0,0143	●
Nitrates	mg/L NO ₃	0,7	●
Nitrites	mg/L NO ₂	0,042	
Potassium	mg/L K	5,61	
Ratio of Sodium Absorption (SAR)		1,25	●
Ratio of Sodium Absorption adjusted (SARaj)		1,3	
Sodium	mg/L Na	37,5	
Total Dissolved Solids (TDS)	mg/L	290	●
Total Suspended Solids (TSS)	mg/L	<LQ	3
Sulphates	mg/L CO ₄	44,2	●
Total Coliforms	NPM/100 mL	387	
Fecal Coliforms	NPM/100 mL	225	●

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	13,0	
pH	Escala Sorensen	8,18	●
Conductivity	µS/cm	490	●

- 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.

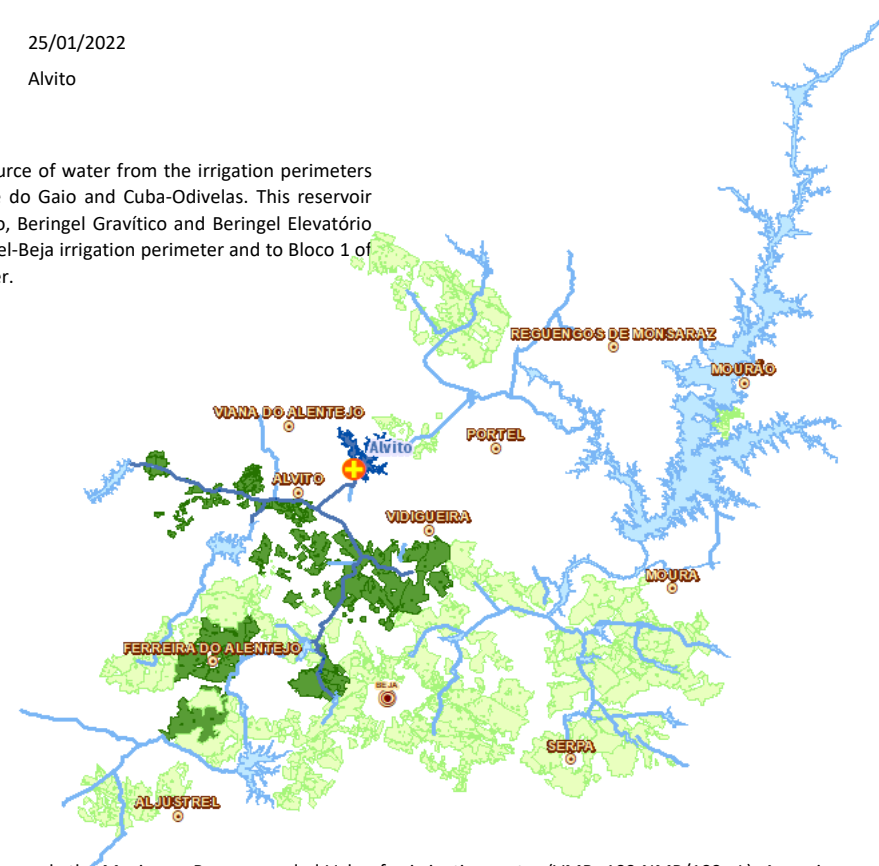
(a) The maximum value recommended in the Integrated Production Standards, for most crops, is 90 mg / L.
 (b) The VMA in Annex XVI of the Decree-Law nº 236/98 refers to the dissolved iron (5 mg/L Fe).

Sampling Data: 25/01/2022

Sampling Place: Alvito

Benefited areas:

The Alvito reservoir is the source of water from the irrigation perimeters of 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.



Comments:

The result of fecal coliforms exceeds the Maximum Recommended Value for irrigation water (VMR: 100 NMP/100mL). A maximum allowed value (VMA) is not defined for this parameter. The results of faecal coliforms in Alvito tend to be below the legal limit for irrigation water, with the result in the November 2021 campaign being 0 NMP/100 mL. The main problem associated with the presence of fecal coliforms in the 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.