

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 71/20)		Conformity	
Parameters	Units	Results	
Alkalinity	mg/L CaCO ₃	155	
Ammonium	mg/L NH ₄	0,23	
Nitrogen Kjeldahl	mg/L N	0,7	
Total Nitrogen	mg/L N	0,9	
Bicarbonates	mg/L CO ₃ H-	189	(a)
Boron	mg/L B	0,017	●
Calcium	mg/L Ca	48	
Chloride	mg/L Cl	60	●
Total Hardness	mg/L CaCO ₃	206	
Total Iron	mg/L Fe	0,66	●
Phosphates	mg/L P ₂ O ₅	0,01	
Total Phosphorus	mg/L P	0,052	
Magnesium	mg/L Mg	21	
Manganese	mg/L Mn	0,06	●
Nitrates	mg/L NO ₃	0,8	●
Nitrites	mg/L NO ₂	0,028	
Potassium	mg/L K	5,73	
Ratio of Sodium Absorption (SAR)		1,2	●
Ratio of Sodium Absorption adjusted (SARaj)		1,3	
Sodium	mg/L Na	38	
Total Dissolved Solids (TDS)	mg/L	358	●
Total Suspended Solids (TSS)	mg/L	14	●
Sulphates	mg/L CO ₄	54	●
Total Coliforms	NPM/100 mL	860	
Fecal Coliforms	NPM/100 mL	276	●

Note: The tests to determine the 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	°C	12,1	
pH	Escala Sorensen	8,3	●
Conductivity	µS/cm	629	●

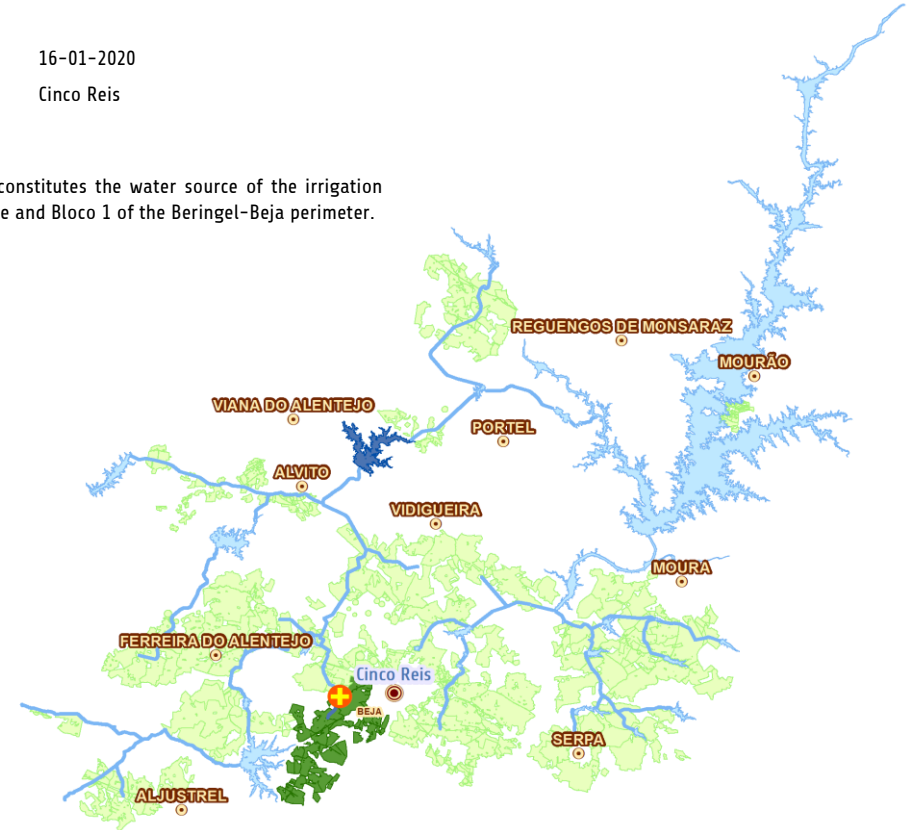
- Lower than the VMR (Maximum Value Recommended).
- Higher than VMR and below the VMA (Maximum Permitted Value).
- Higher than VMR. For this parameter is not defined one VMA.
- Higher than the VMA.

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

Sampling Data: 16-01-2020
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.



Comments:

The result of fecal coliforms exceeds the Maximum Recommended Value for irrigation water (VMR: 100 NPM/100mL). A maximum allowed value (VMA) is not defined for this parameter. It is also noted that the results of faecal coliforms in Cinco Reis tend to be below the legal limit for irrigation water, with the result in the November 2019 campaign being 31 NPM/100 mL and in August 2019 2 NPM/100mL. 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.