

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 15195)	Conformity
Parameters	Units	Results	
Alkalinity	mg/L CaCO ₃	117	
Ammonium	mg/L NH ₄	<LD	0,017
Nitrogen Kjeldahl	mg/L N	0,6	
Total Nitrogen	mg/L N	0,74	
Bicarbonates	mg/L CO ₃ H-	143	(a)
Boron	mg/L B	0,022	●
Calcium	mg/L Ca	33,5	
Chloride	mg/L Cl	21	●
Total Hardness	mg/L CaCO ₃	160	
Total Iron	mg/L Fe	0,0102	●
Phosphates	mg/L P ₂ O ₅	0,018	
Total Phosphorus	mg/L P	0,027	
Magnesium	mg/L Mg	17	
Manganese	mg/L Mn	0,00505	●
Nitrates	mg/L NO ₃	<LQ	1
Nitrites	mg/L NO ₂	0,0514	
Potassium	mg/L K	4,53	
Ratio of Sodium Absorption (SAR)		1	●
Ratio of Sodium Absorption adjusted (SARaj)		1,7	
Sodium	mg/L Na	28,7	
Total Dissolved Solids (TDS)	mg/L	250	●
Total Suspended Solids (TSS)	mg/L	<LQ	3
Sulphates	mg/L CO ₄	16	●
Total Coliforms	NMP/100 mL	47	
Fecal Coliforms	NMP/100 mL	9	●

Note: With the exception of the SARaj, the tests to determine the remaining parameters are included in the range of laboratory accreditation.

Field Results		Water Quality for Irrigation (annex XVI, DL n.º 236/98)	
(Determined with a multiparameter probe)			Conformity
Parameters	Units	Results	
Temperature	°C	19,7	
pH	Escala Sorensen	8,5	●
Conductivity	µS/cm	395	●

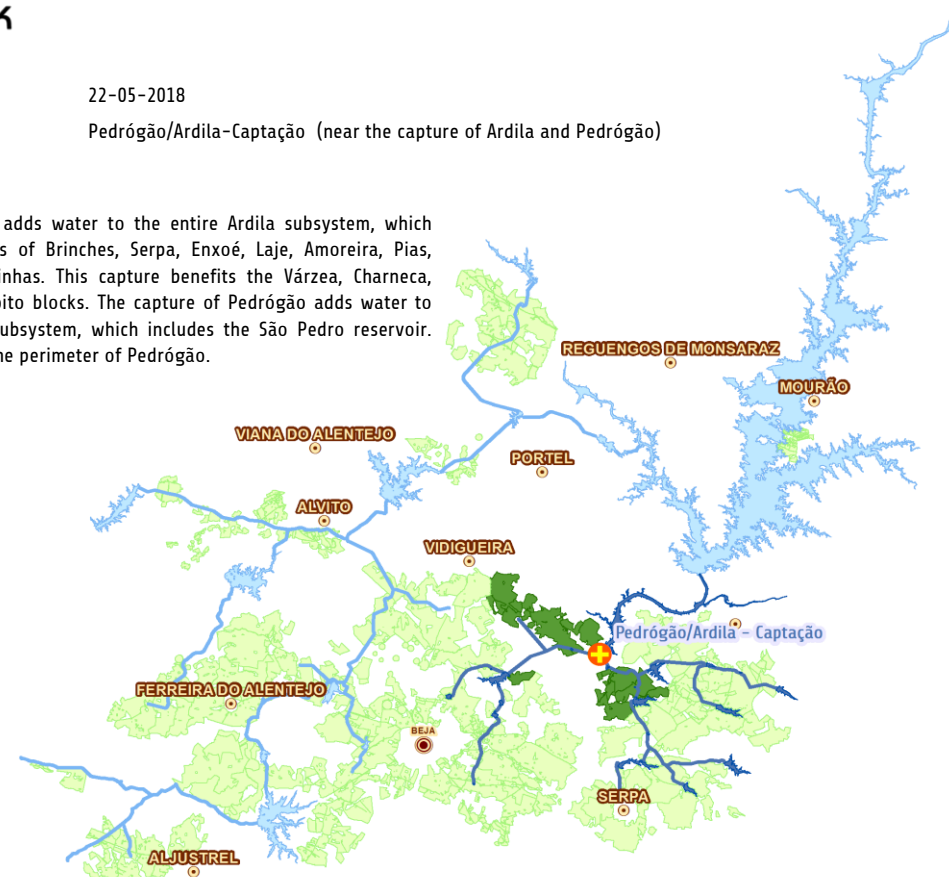
- Lower than the VMR (Maximum Value Recommended)
- Higher than VMR and below the VMA (Maximum Permitted Value)
- Higher than VMR. For this parameter is not defined one VMA.
- Higher than the VMA

- (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: 22-05-2018
Sampling Place: Pedrógão/Ardila-Captação (near the capture of Ardila and Pedrógão)

Benefited area:

The capture of Ardila adds water to the entire Ardila subsystem, which includes the reservoirs of Brinches, Serpa, Enxoé, Laje, Amoreira, Pias, Calijos and Furta Galinhas. This capture benefits the Várzea, Charneca, Contendinha and Magoito blocks. The capture of Pedrógão adds water to the entire Pedrógão subsystem, which includes the São Pedro reservoir. This capture benefits the perimeter of Pedrógão.



Comments:

The bicarbonates results exceed the maximum recommended in the Integrated Production Standards. High concentrations of bicarbonates can affect crop yields, making it difficult to absorb some mineral nutrients.

The pH result exceeds the range of pH Value Maximum Recommended to the water quality for irrigation (VMA: [6.5 to 8.4]). It is common this situation occur in spring and summer, as a consequence of the increased biological activity of algae. During this period pH values tend to decrease in depth. High pH values can affect the plant's ability to absorb nutrients and promote ion precipitation iron, calcium, magnesium and phosphate, which could have the effect of clogging drop by drop irrigation systems.

In the document "Water Quality - Complementary Information", EDIA recommends some general measures to reduce the concentration of salts in the water bodies.

The results of the other parameters are within the ranges of normal values for this type of water bodies.