I agree with the comment of one of the reviewers regarding the term 'mediterranean', which the authors have not accepted. 'Mediterranean area' would indeed refer to the geographical region of the Mediterranean Sea. In the title this term does not make much sense and I would suggest to change to 'mediterranean climatic zone'

Dear reviewer, we changed the concept in the title and along the text for “central Chile” when referring to the area and “mediterranean” only when speaking about climate.

L36: this sentence is not reflecting the whole picture and requires to be rephrased more accurately. Not all of Chile has the characteristic of a mediterranean climate (e.g. Patagonia or Atacama desert) as expressed in this sentence.

The sentence has been rephased to “While central Chile shares with other Mediterranean regions dominance of cloud-less skies during the growing season, it has two advantages for maize production” to avoid misleading.

L64: micropores can also be found between fine particles not just coarse particles.

Dear reviewer, it refers to the high amount of macropores -sometimes called drainage pores- in the interstitial space of the sand particles and to the strong reduction of this due to the loss of hydraulic continuity in unsaturated conditions, which are important points in our study because hydraulic conductivity was evaluated near saturation.

L65: 'depleted' of what?

Has been specified that are depleted of water.

L164: the van Genuchten factor A is commonly described as 'alpha' in the van Genuchten equation and described as approximate of the inverse of the air entry value.

It is not the same parameter. Decagon devices -now METER group, Inc. -in his manual for the mini-disc infiltrometer defines A as “a value relating the van Genuchten parameters for a given soil type to the suction rate and radius of the infiltrometer disk.” And points that A can be obtained for 12 texture classes from Carsel and Parrish (1988) from the next equations:

Where A is expressed as a function of α.

The wording and reference have been changed to avoid misinterpretation.

For more details, see: http://publications.metergroup.com/Manuals/20421\_Mini\_Disk\_Manual\_Web.pdf

236-237: 'the entrance of the field, which presents higher values of penetration resistance, were continuous' --> 'the entrance into the field, which presents higher values of penetration resistance, where continuous'

Changes has been included

527: interfering --> influencing; interfere would mean there is an uncontrolled effect, however OM is a major factor for the value of R.

We agree, the suggestion has been incorporated.

552-555: what is meant ' is not reflected in the same season'? What is the mechanical effect?

The sentence “is not reflected in the same season” refers to the effect of the machinery traffic (+M/-M) reflects that same season, since soil tilling 'resets' this condition every season. While the mechanical effect specifies the type of effect evaluated, however we consider it a redundancy.

The paragraph has been modified to improve clarity to:

“…the effect of machinery traffic evaluated as penetration resistance (PR) in places with frequent crossing of machinery (+M) and places without crossing (-M) was not observed.”

556: do you mean 'deep SOIL hardening'? Or 'hardening at depth'.

Dear reviewer, has been changed to 'hardening at depth' to avoid ambiguity.

557: replace 'how' by 'that'

Changes has been included

558: 'mayor'

Changes has been included

565-567: is this really correct? 'increase in K the subsoil, which can be attributed to the destruction of the coarse porosity generated by the tillage in the topsoil' Does tillage in the topsoil create conditions of increased K in the subsoil?

Dear reviewer, thank you for the comment, this is an important message in our manuscript, and it has to be clear. We rephrase it to:

“…there was an increase in K the subsoil, which can be attributed to the conservation of coarse porosity resulting from structuring and biological activity, while on the surface it is destroyed by tillage.”

569-571: you are assuming that the water retention characteristic is the same at different depth/locations. If it is different then K can still be different with the same R values or vice versa.

The paragraph speak about difference in statistical terms, R and K were measured for all treatments, nevertheless, when looking at the correlation of both properties, this was significant.

The paragraph has been rephrased including the statistical terms to:

Findings on water repellency (R) indicated that there were no significant differences in hydrophobicity at the study site. This result contrasts with the observed correlated trend between hydraulic conductivity and the R index.