

Revegetation pattern affecting accumulation of organic carbon and total nitrogen in reclaimed mine soils

In this study, the SOC and TN stocks were investigated at reclaimed mine sites (RMSs), including artificially revegetated sites (ARSs ; arbors [Ar], bushes [Bu], arbor- bush mixtures [AB], and grasslands [Gr]); a natural recovery site (NRS), and undisturbed native sites (UNSSs). These results suggest that grasslands were more favorable than woodlands for SOC and TN accumulation in this arid area, especially in Ar. Thus, in terms of the accumulation of SOC and TN, GRASSLAND PLANTING is recommended as a revegetation pattern for areas with reclaimed mine soils.

Novelty of the study was “to evaluate the effects of different revegetation patterns on the SOC and TN pools in reclaimed mine soils”. → very clear.

- [1] LN 97-98: The mine encompasses a total area of 52.11 km² , and the mine elevation is between 1025 m and 1302 m. → I suggest that you make it clear about mine elevation 1025 m to 1302m, it is from MSL or ground level or base level? Also explain, is its plan area or undulating topography and lowest point is 1025m?
- [2] LN 108-110: I suggest, you need to change/ rewrite LN 108-110 “ In the process of reclamation, at least 1 m of top subsoil (the deep loess parent materials stripped during mining) was applied on the top of the dump and appropriate leveling was conducted to create a flat surface”. → for example, you can add “ In the process of technical reclamation, (add technical), 1m top subsoil.. leveled appropriately .. (just change little bit this sentence).
- [3] LN 146: I suggest for better clarity of the Line No 146 “ The bulk density was then used to convert SOC and TN values from g kg⁻¹ to kg m⁻²”→ write in the formula form, so that it could be easily understood.
- [4] Add site photographs of reclaimed mine sites (RMSs), including artificially revegetated sites (ARSs ; arbors [Ar], bushes [Bu], arbor- bush mixtures [AB], and grasslands [Gr]); a natural recovery site (NRS), and undisturbed native sites (UNSSs), → if available.

Rest of the manuscript is well organized.

Recommendation: Accept after minor revision as suggested from [1] to[4].