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Grain size of deposits in different plantation dunes on the eastern shore of Qinghai Lake

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Soil particles are related to vegetation growth and source of deposits in arid and semi-arid desert. It is worth mentioning that plantation is the one of the most effective ways of improving desert soil conditions. The sandy land on the eastern shore of Qinghai Lake is the biggest area in the desertified land of Qinghai Lake Basin. Some measures have been taken to prevent and control desertification in Kutu district since 2008. We chose the dunes that planted *Salix cheilophila*, *Hippophae rhamnoides*, *Pinus sylvestris*, *Populus simonii* and *Hedysarum scoparium* as study sites, then collected deposits from topsoil to the depth of 60 cm to probe into the change of grain size features. The results show that: (1) All study dunes primarily are made up of medium materials for mean particle size (M) is medium sand widely distributed from 0.27mm to 0.31mm which are presented uniform. (2) The sorting coefficient of sediments is concentrated between 0.5 and 0.9 with better performance. The skewness value is between 0 and 1, which shows nearly symmetrical and positive skewness. The kurtosis is between wide and medium. (3) The vertical change of particle size composition at different depths of 60 cm indicates that plantation significantly changed the distribution of the surface sediments in the dunes, whereas particle compositions at different depths did not have obvious rules of different plants. (4) The vegetation recovery time in study area was short, therefore, interactions between wind sorting, terrain fluctuations and vegetation growth might affect the grain size features of surface sediments in study area.