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## Influence of Soil Properties on P Pools and Its Effect on Forest Productivity in Mediterranean Calcareous Soils

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摘要	<p>Although soil phosphorus is essential for vegetation growth it is not always found in labile forms, hampering its absorption by plants, and is limited in forest ecosystems. This study explores soil P state and availability in calcareous soils, determining which processes affect its different pools and which soil parameters influence forest productivity of a Mediterranean pine species. We used a sequential fractionation method to determine P fractions in the soil according to their lability and their organic or inorganic nature. Those fractions were related to different soil and climatic parameters and to the site index in 32 Pinus halepensis plots of the National Spanish Forest Inventory. Soil texture, carbonates content, water retention capacity and organic matter substantially affected P fractions in the calcareous soils studied. Membrane extractable P was mainly influenced by organic matter-related parameters while the predominant P fraction in these soils, the primary P, was linked to the carbonates content. The biological mineralization processes played a key role in the soil P cycle. Total P, carbonates content, soil texture and water availability drove forest productivity in the studied plots. View Full-Text</p>
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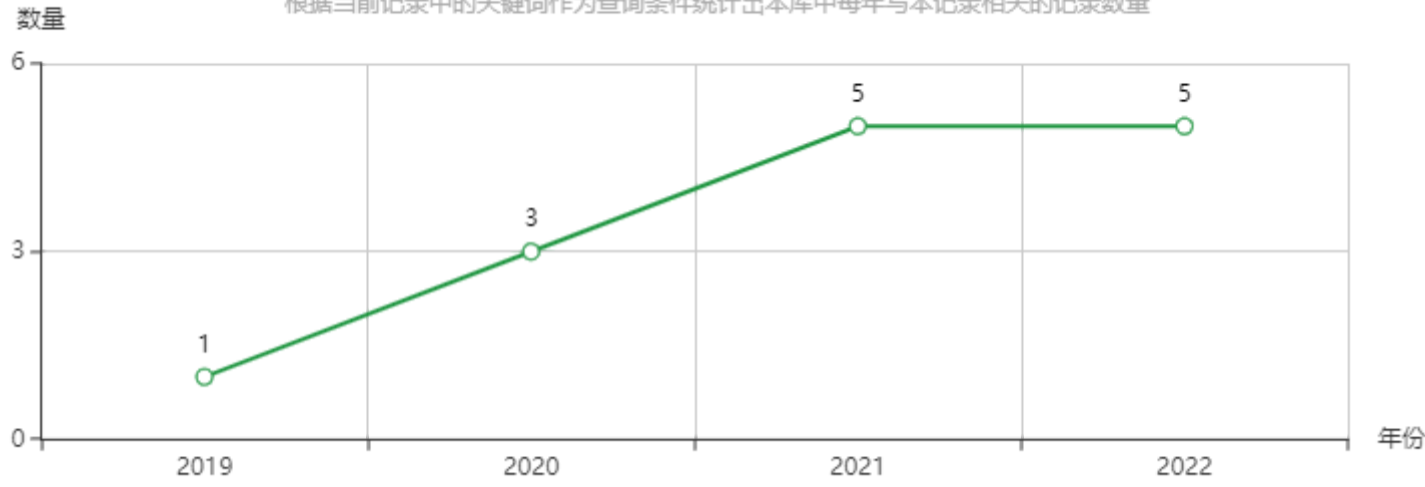
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