

Article title	Pi-Paper as an Evaluation Method of Available Phosphorus in Gypsum-Calcareous Soils
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Abstract	<p>The iron oxide-impregnated paper strip (Pi test), anion (HCO_3^-) resin membrane strip and Olsen (NaHCO_3) tests were used to assess available phosphorus (P) in four Syrian calcareous soils treated with 0 and 190 mg P kg⁻¹ as diammonium phosphate (DAP) or monocalcium phosphate (MCP) in an incubation study at 25°C for 0, 1, 7, 21, 42, and 72 days. The amounts of available P extracted by the three methods decreased with time of incubation, especially during the first 7 days. In general, more available P was extracted from the soils treated with MCP than that with DAP. In the three soils that don't contain CaSO_4, the available P decreased with the increasing amount of CaCO_3 in the soils. Pi-P correlated well with Olsen-P or resin-P in these three soils. In the other soil, which contains 30–40% CaSO_4, the amounts of Olsen-P and resin-P extracted from DAP and MCP were much less than Pi-P. The amounts of Olsen-P and resin-P in this soil were also less than that in the other three soils. It was found that HCO_3^- of Olsen and resin-HCO_3^- react with CaSO_4 and precipitated CaCO_3 that adsorbed or precipitated water-soluble P of DAP or MCP, and thus Olsen and resin-HCO_3^- significantly underestimated available P in the soil containing CaSO_4.</p>
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