

night before using it. A fresh portion of this solution should be made up from the dry powder every three weeks.

6. Standard phosphate solution: Dilute 0.4389 gm of dry K_2HPO_4 to 1 liter for 100 ppm P. Dilute 20 ml of this solution to 100 ml for a 20 ppm P standard. Dilute with Reagent 3 in both cases instead of with deionized water.

Procedure

1. Weigh 5 gms of air-dried soil into a 125 ml Erlenmeyer or other suitable extracting flask.
2. Add 50 ml of P_1 extracting solution (reagent 3) from an automatic pipette.
3. Shake on a shaker for two minutes.
4. Filter through Whatman No. 42 filter paper into 50 ml Erlenmeyer flasks, filter funnels, or vials. (Set up the filters before the extracting solution is added to the soil samples.)
5. Transfer a 5 ml aliquot of the filtrate to a test tube. For soils high in P use a 2 ml aliquot plus 3 ml extracting solution.
6. Add 5 drops of ammonium-molybdate-HCl reagent and swirl the tube to mix the reagent with the filtrate.
7. Add 5 drops of amino-naphthol sulfonic acid reagent and mix immediately. (If the color is being developed in several tubes at once, the ammonium-molybdate-HCl reagent may be added to several tubes before they are mixed; when the amino-naphthol sulfonic acid reagent is added each tube must be mixed immediately after the reagent is added.)
8. Fifteen minutes after the amino-naphthol sulfonic acid reagent was added to the first sample begin reading the color in a photometer using a green filter (525 $m\mu$ wave length).

Preparation of Standard Curve

1. Add 0, 1, 2, and 3 ml of a 20 ppm P standard solution to test tubes.
2. Add a sufficient amount of P_1 extracting solution (reagent 3) to bring the total volume to 5 ml.
3. Proceed to develop color as described above in steps 6 through 8.