

Whether or not to lime— SOIL ACIDITY TESTS and their practical uses

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ALL plants respond in a decided way to their chemical environment, and for this reason the importance of soil reaction has long attracted much attention. Two conditions are generally recognized in this respect—soil alkalinity and soil acidity. The latter condition is very prevalent in humid sections.

Nature of Soil Acidity

Soil acidity may be considered for practical purposes as an unfavorable condition for plant growth arising in the soil through a lack of certain active bases such as calcium and magnesium. This condition may be corrected by the application of some form of lime.

Technically three reasons may be assigned to account for the harmful effects of soil acidity. (1) hydrogen ion concentration or the actual presence of an acid; (2) the presence of active poisonous bases harmful to plant growth such as aluminum, manganese and others; and (3) the actual shortage of calcium and magnesium as a nutrient.

The tendency of all soils in a humid area is toward acidity. The four important factors generally specified as encouraging

acidity are: (1) loss by leaching; (2) loss by cropping; (3) absorption within the soil; and (4) fertilizer residues.

Tests for Soil Acidity

It is highly desirable that we have means of determining the degree of acidity in soils. Such tests have been provided. The following are five types of tests which are being used to a considerable extent:

1. Hydrogen ion. This is the most accurate of all tests. It is a laboratory test, however, and for that reason is hardly adapted to the use of the layman. With this test the neutral point is represented by the figure 7. Below that point is acidity and above it alkalinity. Most of the soil samples with which the farmer and greenskeeper has to deal may be tested fairly accurately with one of the other tests.

2. Truog. This test requires several minutes to complete, but it is one of the most dependable.

3. Soiltex. This is one of the "quick" tests and may be regarded as one of the best in that group. An advantage of this



Southern California Greenkeepers got together at Palos Verdes May 6 for one of their profitable sessions. Here are some of the fellows who are making this section a garden of golf.