The soils on the higher terraces with a petrocalcic horizon were calcareous to the surface and the calcium carbonate of the finer fraction above the petrocalcic horizon has carbon-14 age of something like a thousand years. The upper part of the petrocalcic horizon had a carbon-14 age of a very few thousand years and the lower part of the petrocalcic horizon was running back into some tens of thousands of years of age indicating that the process of accumulation of carbonates had been going on for a very considerable time. The early accumulation was in the form of incrustations on the gravel that gradually grew until they plugged the horizon and made it impermeable to water. At this point the water began to move laterally along the surface of the plugged horizon producing the laminar horizon in which the sand grains have been displaced by the crystallization of the calcium carbonate, so that in the laminar horizon formed in sandy materials we have a virtually sand-free horizon of calcium carbonate. This is apparently a continuing process and the intermediate terraces have not yet reached the stage where the gravels have been plugged by calcium carbonate. The low terraces show only the faint beginnings of the accumulation of the carbonates.

The Soil Survey Appraises Farmland

Fredrick L. Gilbert

Two major concerns have met at the crossroads of time and circumstance. These concerns are the need for an objective scheme for appraising agricultural land and the need for increased relevancy for our soil survey program. There are a number of different ways to use the soil survey in land appraisal in the United States. It is my purpose in writing this piece to offer one more approach.

Appraising “Raw-land”—A Dilemma

Guidelines exist that help appraisers objectively assign values to “works of improvement” on the land. It is usually easier to justify the appraisal of a chicken house than to justify the value placed on the north forty. Without guidelines, the appraisal of “raw-land” has been strongly influenced by factors other than its intrinsic value (“Raw-land” as used here, is defined as the soil area only that is without the influence of improvements.) The appraiser is commonly influenced by the land’s locational value, which depends upon the land’s proximity to cities, recreation areas, or other considerations that attract land investors.

1Frederick L. Gilbert, State Soil Scientist, USDA, Soil Conservation Service, Syracuse, New York.