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appraising farmland

... soil surveys
can help you

U.S. DEPT. OF AGRICULTURE
NATIONAL SOIL SURVEY



Soil Conservation Service
U.S. Department of Agriculture

APPRAISING FARMLAND

In appraising the income potential of farmland it is essential to distinguish between income differences caused by soil properties and those caused by management. If two farms are managed in much the same way and still show differences in income, it is likely that the soils differ in inherent productivity.

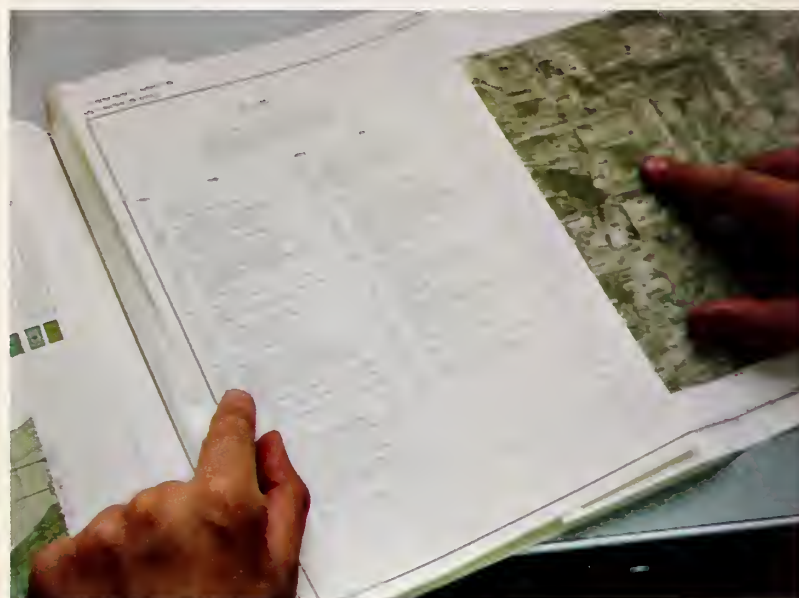
Likewise, two farms that have identical soil resources have the same potential productivity even if they are now managed differently.

This pamphlet tells how soil surveys available from the Soil Conservation Service can help bankers, loan companies, tax assessors, farmers, and others who need to know about the productivity of farmland obtain reliable estimates of the potential productivity of soils in their area.

Productivity Ratings

Soil surveys contain detailed maps and descriptions of each kind of soil in the county or area surveyed. They also provide estimates of average yields per acre of the principal crops under a high level of management. The yield estimates are based on information obtained from experiment stations, farmers, and other sources.

The soil descriptions combined with the yield estimates can help you evaluate the



Detailed soil maps and soil descriptions can contribute to accurate appraisal of farmland.



A soil survey can help you establish soil productivity ratings for crops grown in your county. Such ratings are helpful in determining the comparative value of a given farm within the county.

What is this farm worth?
Soil productivity is
the basic consideration.
A soil survey
can help you
evaluate the soils
in your area.



A soil survey
can help you
determine whether
higher levels of
management would
increase yields
enough to pay
the added cost.



Some soils, such as muck soils shown here, are suited to special crops. Soil surveys describe soil properties in detail so you can estimate their productive potential and suitability for different crops.

For example, the most productive soil in the county would be rated 100, the least productive soil would be rated 10, and the other soils would be rated in between.

The table shows a sample productivity rating by kinds of soil based on the predicted average acre yields for corn and soybeans grown under two levels of management. Similar ratings can be developed for crops and soils in your area.

Once you have rated all the soils countywide, you can use the ratings to evaluate the crop productivity of soils on any given farm in the county. To obtain an overall rating for a given farm, multiply the crop productivity rating of each soil by the number of acres of that soil on the farm. Add the results. Then divide by the total acreage of the farm. This gives you the average productivity rating per acre of the farm for the given crop.

Economic Ratings

Although productivity ratings are helpful in determining the land value of farmland, you also must consider the local sale prices of similar farms, production costs, and expected return from sale of farm products.

You can estimate an economic rating for each kind of soil by applying expected average prices for farm products, production costs, and sale prices of similar farms to the productivity rating. Information on expected prices of farm products and the sale price of land can be obtained from various local sources. In preparing an economic rating, soils showing the highest *net* return per acre receive the highest rating, and other soils rate lower accordingly.

Other conditions affect farm values. Land used for timber, pasture, range, or brush traditionally has been assessed at lower value

than land used for crops. Distance to trade centers, markets, schools, and churches and the quality of roads also affect value. The kind, size, condition, and number of buildings can affect the operation of a farm and thus contribute to the income. The number, arrangement, and condition of fences also affect operation, particularly of farms that have much livestock.

How Soil Surveys Can Help

Soil properties determine the kind of management needed to obtain adequate yields. For example, soils low in plant nutrients require more fertilizer, and sloping soils generally cost more to farm than level soils. Clayey soils require more labor for seedbed preparation than loamy soils, and delays in planting due to weather conditions are often greater on clayey soils. Soil surveys describe properties of soils that affect farm management, including the following:

- depth of root zone
- natural soil drainage
- permeability
- content of sand, silt, and clay
- slope
- extent of floodprone areas
- acidity and alkalinity
- content of toxic salts
- depth to water table

These and many other properties described in soil surveys provide a scientific basis for comparing one tract of land with another.

Tax Assessment

Appraising land by soil properties rather than by levels of management is particularly important in tax assessment. Appraisals based

| Kind of soil | Corn | | Productivity rating | Soybeans | | Productivity rating |
|--------------|---------------|---------------|---------------------|---------------|---------------|---------------------|
| | Mgt. level | | | Mgt. level | | |
| | Avg. | High | | Avg. | High | |
| Soil 1 | <i>Bu.</i> 70 | <i>Bu.</i> 96 | 100 | <i>Bu.</i> 38 | <i>Bu.</i> 45 | 100 |
| Soil 2 | 50 | 70 | 75 | 28 | 36 | 80 |
| Soil 3 | 32 | 48 | 50 | 17 | 23 | 50 |
| Soil 4 | 26 | 40 | 40 | 24 | 32 | 70 |

on soil differences tend to encourage good management on all farms and do not penalize farmers who practice good management. Because the acreage and location of each kind of soil in the survey area are shown on detailed soil maps, the acreage of each soil on a given farm can be estimated accurately. Soil data make assessing easier because a uniform system of rating soils can be used countywide.

How to Obtain Soil Surveys

Soil surveys made cooperatively by the Soil Conservation Service and state and other federal agencies are in progress in counties throughout the United States. You can call the local office of the Soil Conservation Service to find out whether the survey of your area has been published. If you are in a conservation district, a soil conservationist or soil scientist assigned to the district can discuss with you the use of soil surveys in appraising farmland.

Issued September 1974

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, D.C. 20402
Price 25 cents Stock Number 0100-02915