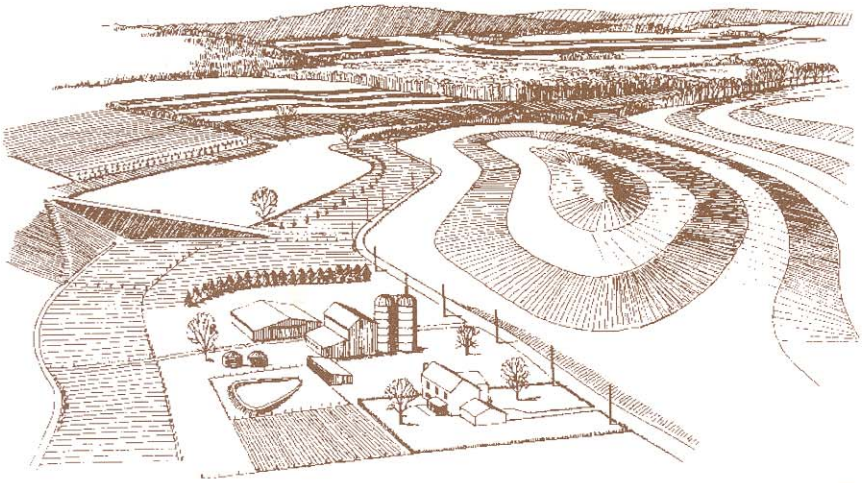
SOIL SURVEYS
can help you...



Appraising Farmland

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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 soil differs 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 **Natural Resources Conservation Service (NRCS)** 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 soil in their area.

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

How can soil surveys help determine 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 from experiment stations, farmers and other sources.

The soil descriptions combined with the yield estimates can help you evaluate the potential productivity of soil. Because yields at a high level of management are given, you can estimate whether increased management would increase yields enough to justify the additional expense.

By listing soil according to its ability to produce given crops, you can establish a countywide productivity rating for each soil. For example, the most productive soil in the county would be rated 100, the least productive soil would be rated 10, and other soil would be rated in between.

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.

The table below 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 soil in your area.

	Corn			Wheat		
	Mgt level		Productivity	Mgt level		Productivity
Kind of soil	Avg	High	rating	Avg	High	rating
	Bu	Bu		Bu	Bu	
Soil 1.....	91	128	100	51	87	100
Soil 2.....	64	106	75	38	56	75
Soil 3.....	61	101	70	34	49	65
Soil 4.....	54	95	65	36	50	70

Once you have rated the soil countywide, you can use the ratings to evaluate the crop productivity of soil 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 acres of the farm. This gives you the average productivity rating per acre of the farm for a given crop.

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

How can soil surveys help estimate 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, soil showing the highest net return per acre receive the highest rating, and other soil rates lower accordingly.

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

Other conditions affect farm values. Land used for timber, pasture, range or brush traditionally has been assessed at a 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 can soil surveys help?

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

- Depth of root zone
- Natural soil drainage
- Permeability
- Content of sand, silt and clay
- Slope
- Extent of flood-prone 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 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 soil can be used countywide.

How can you get a soil survey?

Soil surveys conducted cooperatively by **NRCS** and state and other federal agencies are in progress in counties throughout the United States. You can call the local **NRCS** office to find out whether a 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.

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