on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map in the back of this survey was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning management of farms and fields, a mapping unit is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil type or soil phase.

In preparing some detailed maps, the soil scientists have a problem of delineating areas where different kinds of soils are so intricately mixed and occur as individual areas so small in size that it is not practical to show them separately on the map. Such a mixture of soils is shown as one mapping unit and called a soil complex. Ordinarily, a soil complex is named for the major kinds of soils in it, for example, Urban land-Armour-Maury complex. Also, on most soil maps it is necessary to show areas that are so rocky, so shallow, or so frequently worked by wind and water that they scarcely can be called soils. These areas are shown on the soil map like other mapping units, but they are given descriptive names, such as Rock land, and are called land types rather than soils.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soils in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soils. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in such a way that it is readily useful to different groups of readers, among them farmers, managers of woodland, and engineers. Grouping soils that are similar in suitability for each specified use is the method of organization commonly used in soil surveys. On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, and then adjust them according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Fayette County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to

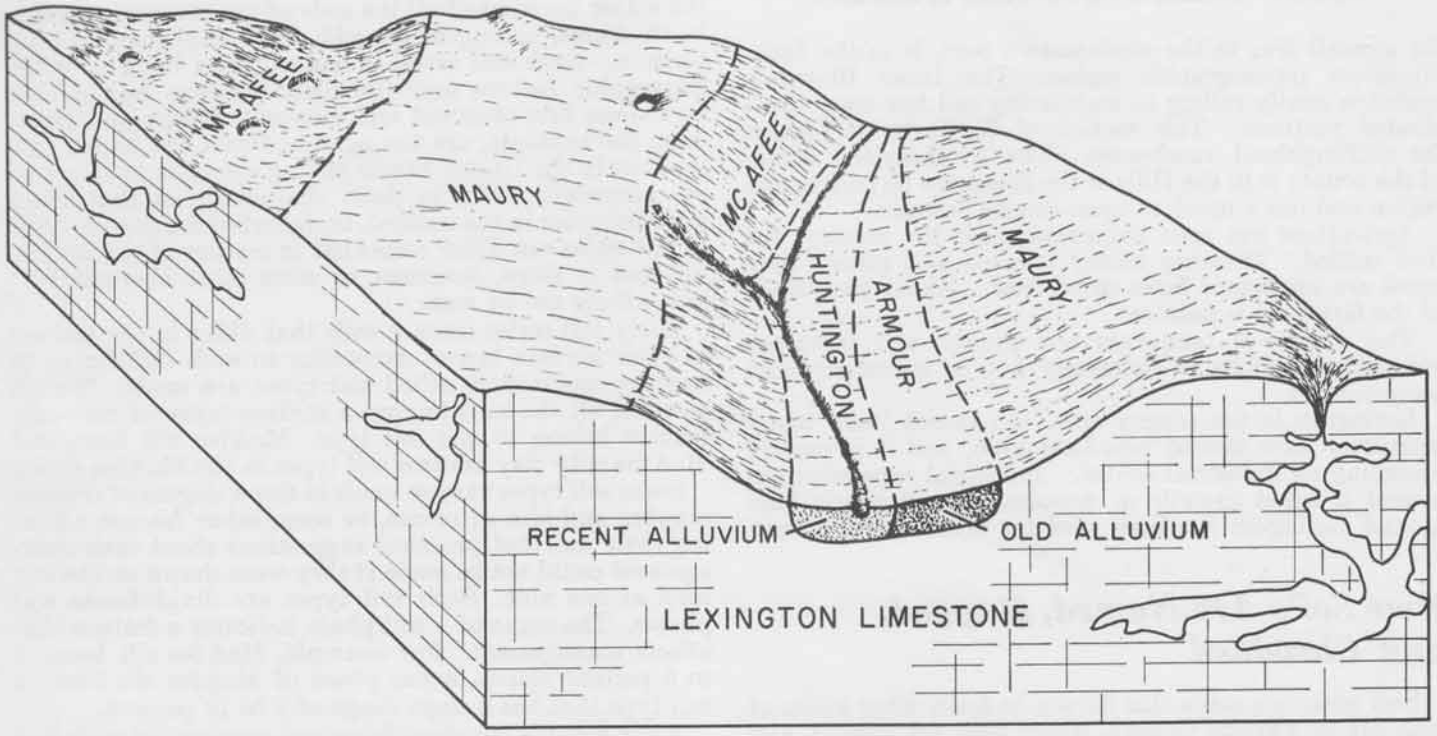

Figure 2.—**Relationship of soils to topography and underlying material in association 1. Unshaded areas represent caverns or sinkholes in the limestone bedrock.**

Coped from: USDA Soil Survey, Fayette County, Kentucky
Issued February 1968

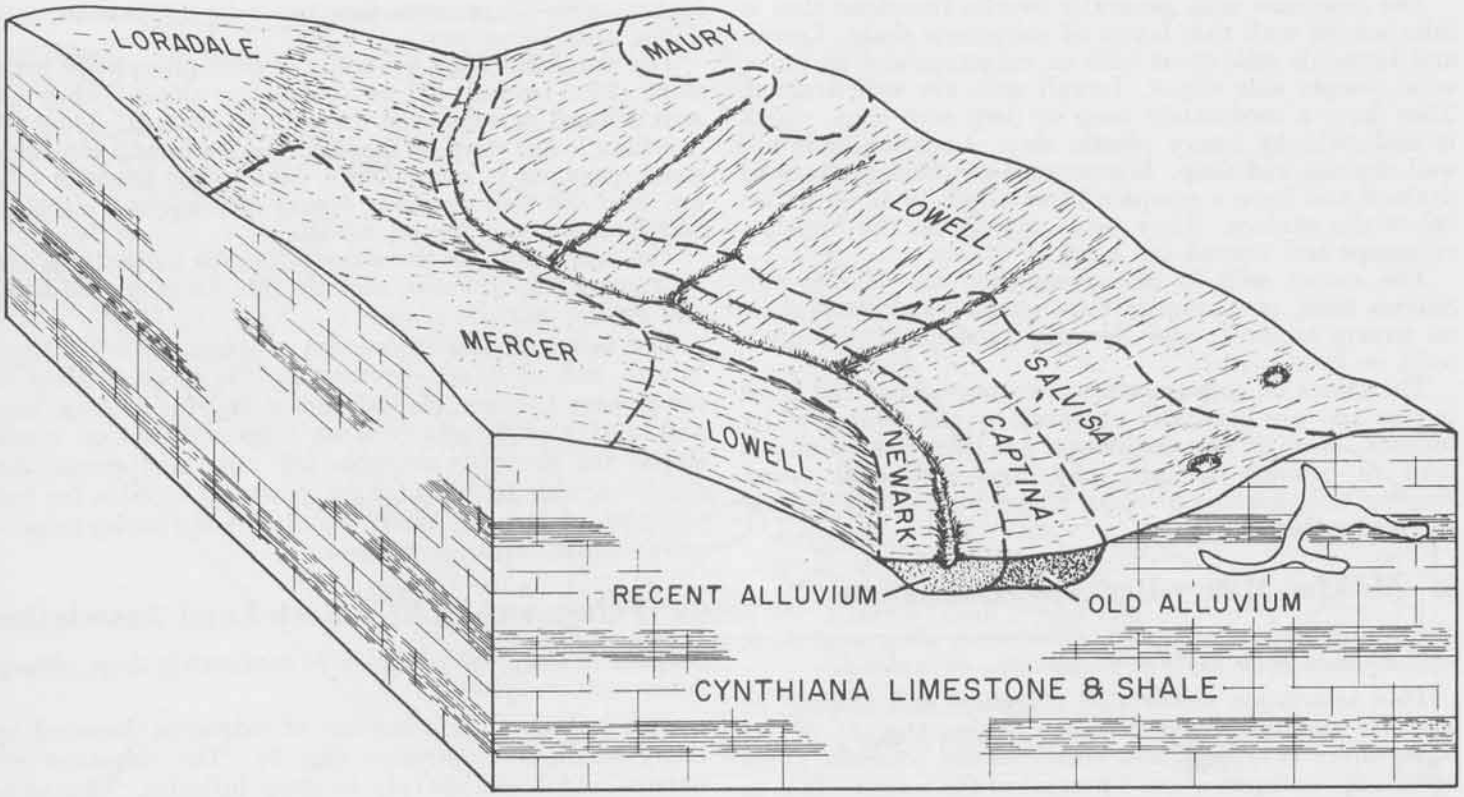

Figure 3.—**Relationship of soils to topography and underlying material in association 2. Unshaded areas represent caverns or sinkholes in the limestone bedrock.**

know the location of large tracts that are suitable for a certain kind of farming or other land use. Such a map is not suitable for planning the management of a farm or field, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect management.

The five soil associations in Fayette County are described in the following pages.

1. Maury-McAfee Association

Undulating, deep and moderately deep, well-drained soils high in phosphate; on uplands

This soil association consists of undulating ridges and short steeper slopes around sinkholes and drainageways (fig. 2). It occupies about 55 percent of the county. Most of the acreage is in the northern and western parts, but two small areas are in the southeastern part. Caverns and underground drainageways are common. Maury soils make up about 70 percent of the association, McAfee soils 13 percent, and minor soils the rest.

The dominant soils, Maury and McAfee, generally overlie phosphatic limestone. Maury soils are deep, well drained, and fertile. They are on broad ridgetops and on some side slopes. McAfee soils are well drained or somewhat excessively drained and are less than 3 feet deep over bedrock. They occur on steep slopes around drainageways and sinkholes.

The minor soils in this association are Donerail, Fairmount, and Salvisa soils, on uplands; Armour soils, on stream terraces; and Huntington, Lindside, Egam, and Lanton soils, on flood plains.

The farms on this association are generally between 100 and 300 acres in size, but a few are much larger. Most are operated by the owners or by tenants; some small farms are operated by part-time farmers.

The soils in this association are used mainly for producing Kentucky bluegrass pasture, hay, and burley tobacco. Some grain and some silage are grown. Part of the bluegrass crop is managed for the production of seed. Most of the horse farms in this county are on the soils of this association. Raising thoroughbred racehorses, raising beef cattle, and growing burley tobacco are the major farm enterprises.

2. Lowell-Loradale-Mercer Association

Gently sloping, deep and moderately deep, well drained and moderately well drained soils on uplands

This soil association consists of broad, gently sloping ridgetops dissected by many drains (fig. 3). Leading down to the drains are slightly steeper, fairly regular slopes of moderate length. Sinkholes are prominent in places but are not characteristic of the association as a whole.

The soils of this association occupy about 31 percent of the county. They occur in the east-central part and in a small area north of Greendale. About 40 percent of this association consists of Lowell soils, 15 percent of Loradale soils, 14 percent of Mercer soils, and the rest of minor soils.

The dominant soils generally overlie limestone that is interbedded with thin layers of calcareous shale. Lowell and Loradale soils occur both on ridgetops and on somewhat steeper side slopes. Lowell soils are well drained. They have a moderately deep or deep root zone, which is underlain by heavy plastic clay. Loradale soils are well drained and deep. Mercer soils are moderately well drained and have a compact layer about 18 to 26 inches below the surface. They occur mostly on the broadest ridgetops and around the head of drains.

The minor soils in this association are Maury and Salvisa soils, on uplands; Captina and Lawrence soils, on stream terraces; and Newark, Lindside, and Melvin soils, on flood plains.

The farms on this association average about 150 acres in size and are generally operated by the owners or by tenants. Most of this association has been cleared and is used to produce pasture, hay, and cultivated crops. Raising livestock and growing burley tobacco are the major farm enterprises.

3. McAfee-Maury-Braxton Association

Rolling to strongly sloping, moderately deep and deep, well-drained soils high in phosphate; on uplands

This association consists of ridgetops and sloping or strongly sloping hillsides around drains (fig. 4). Karst topography is typical, and sinkholes are common. This association occupies about 8 percent of the county. It is in the extreme western part and in the southeastern part. McAfee soils make up about 45 percent of this association, Maury soils 30 percent, Braxton soils 10 percent, and minor soils 15 percent.

The dominant soils generally overlie phosphatic limestone. McAfee soils are on the steeper slopes. They are well drained or somewhat excessively drained. They are less than 3 feet deep to limestone bedrock, and the limestone crops out in some places. Maury and Braxton soils are deep and well drained. Maury soils are on ridgetops, and Braxton soils are on side slopes.

The minor soils in this association are the Salvisa and Fairmount, on uplands, and the Huntington, Lindside, and Egam, on flood plains.

The farms on this association average about 110 acres in size, and most are operated by the owners. Most of the acreage has been cleared and is used for pasture, hay, and cultivated crops. Soils on ridgetops and on upper slopes are generally suitable for cultivated crops, and shallower soils on hillsides are generally suitable for hay and pasture. Raising livestock and growing burley tobacco are the main farm enterprises.

4. Fairmount-McAfee-Rock Land Association

Sloping to steep, very shallow to moderately deep, clayey, rocky soils on uplands

This soil association consists of ridgetops dissected by many small, short streams (fig. 5). The ridgetops are narrow and break sharply to steep hillsides. This association occupies about 5 percent of the county. It occurs in the southeastern part, along the Kentucky River and

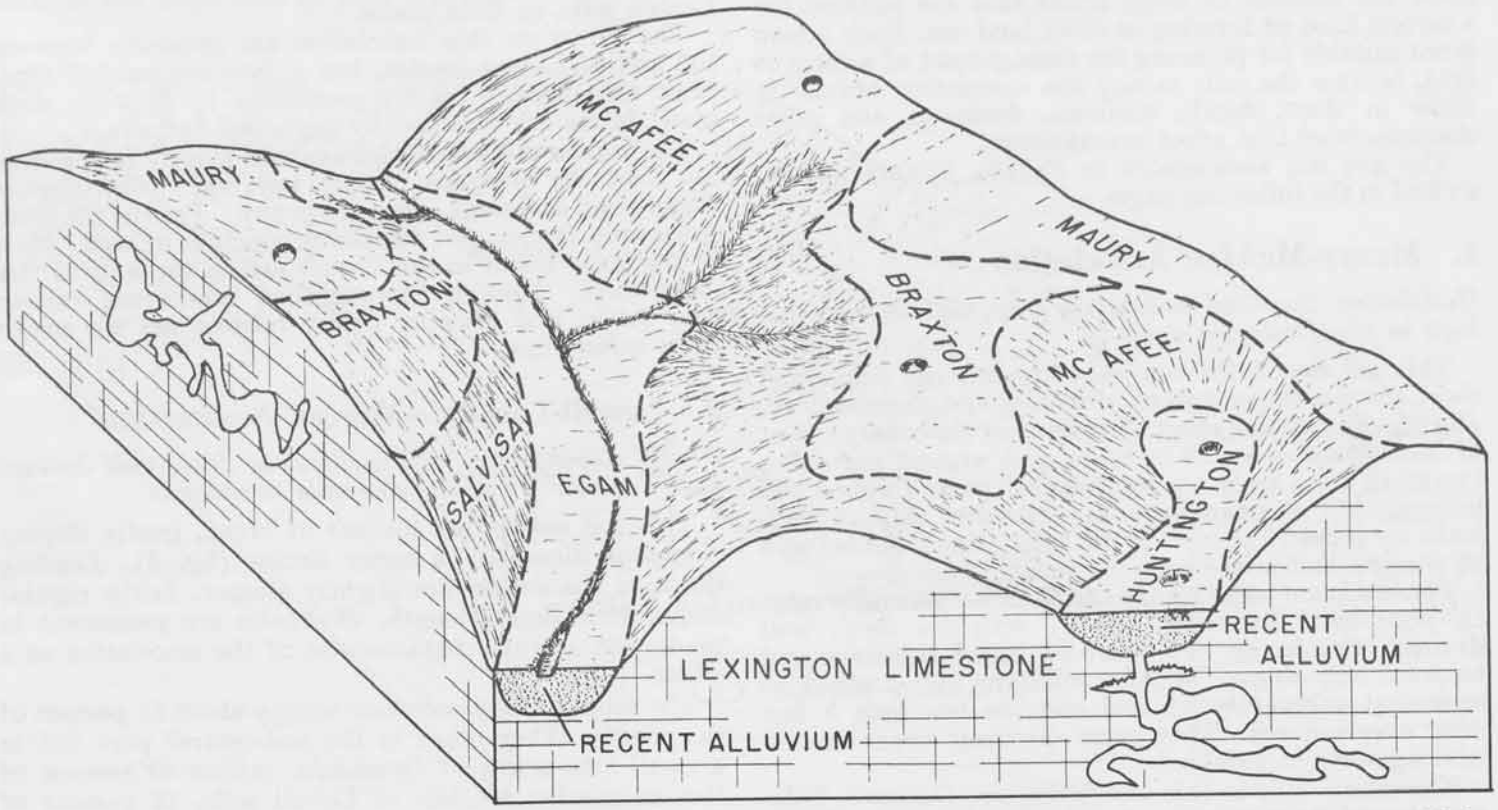

Figure 4.—Relationship of soils to topography and underlying mater ial in association 3. Unshaded areas represent caverns or sinkholes in the limestone bedrock.

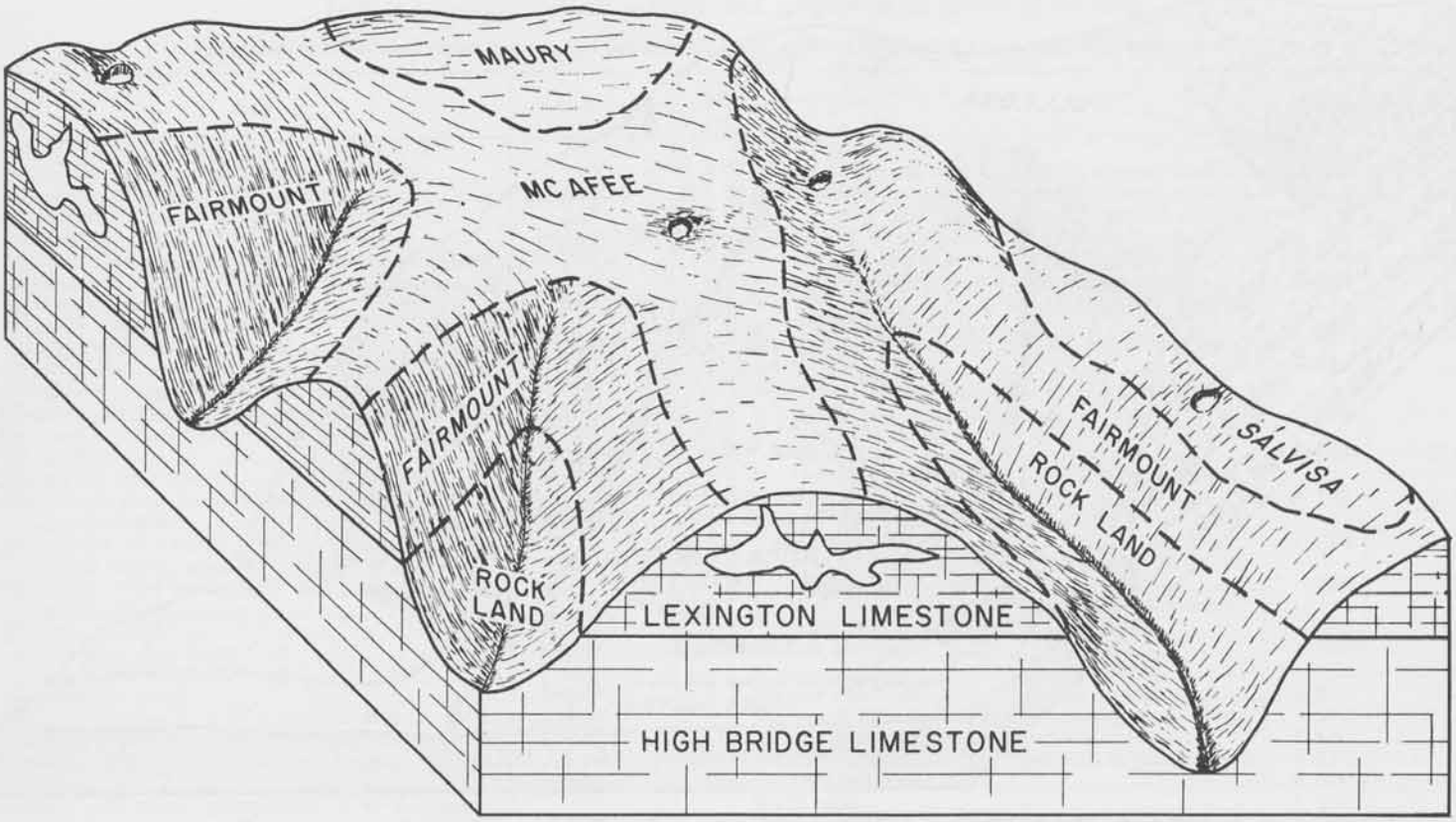

Figure 5.—**Relationship of soils to topography and underlying material in association 4. Unshaded areas represent caverns or sinkholes in the limestone bedrock.**

Boone Creek. High limestone bluffs and long steep slopes are common along the Kentucky River gorge. Fairmount soils make up about 50 percent of the acreage, McAfee soils 20 percent, Rock land 15 percent, and minor soils the rest.

The dominant soils, Fairmount and McAfee, generally overlie limestone. Fairmount soils are on the steeper hillsides. They are shallow, clayey, excessively drained soils in which there are many outcrops and many loose slabs of limestone. McAfee soils occur on ridgetops and upper slopes. They are moderately deep to shallow and are well drained or somewhat excessively drained. Rock land, a miscellaneous land type, consists mostly of outcrops but, in places, has a thin mantle of soil material over limestone bedrock.

The minor soils in this association are the Salvisa and Maury, on ridges, and the Armour and Huntington, which are alluvial soils that occur as narrow, intermittent strips on flood plains along the Kentucky River.

The farms on this association are generally operated by the owners, some of whom are part-time farmers. Most of the acreage is suited to pasture, woodland, and wildlife, but only the deeper soils are suited to cultivation. Raising livestock and growing tobacco are the main farm enterprises. About 65 percent of the acreage has been cleared. Most of this is used for pasture and hay, but a small acreage of burley tobacco is grown on ridgetops and on flood plains along the Kentucky River. The remaining 35 percent is in low-grade hardwoods and redcedar trees or is grown over with brush.

5. Salvisa-Culleoka Association

Steep, deep to shallow, droughty soils on uplands

This soil association consists of narrow ridgetops and long, moderately steep or steep hillsides (fig. 6). The difference in elevation between the ridgetops and valleys is 200 to 250 feet. This association occupies about 1 percent of the county. It occurs in the extreme southeastern part, in a large meander of the Kentucky River. Salvisa soils make up 50 percent of this association, Culleoka soils about 30 percent, and minor soils the rest.

Salvisa soils are on side slopes. They are moderately deep or shallow, clayey, droughty soils underlain by limestone and calcareous shale. Culleoka soils are on ridgetops and upper slopes. They are mostly deep, medium-textured, somewhat droughty soils. They are underlain by siltstone, and siltstone fragments are common on steep slopes.

The minor soils in this association are the Lowell soils, on ridges, and the Armour and Huntington soils, on flood plains along the Kentucky River. There are also a few areas of Rock land.

This association is suited to limited use for grazing, to woodland, and to wildlife. About half the acreage is cleared, and this is used mostly for pasture and hay. Only a small acreage is suitable for cultivation. A small acreage of burley tobacco is grown on ridgetops, and tobacco and corn are grown on the Kentucky River flood plain. Some fields are idle and have been invaded by weeds and bushes. The uncleared acreage is in low-grade hardwoods, redcedar, and brush.

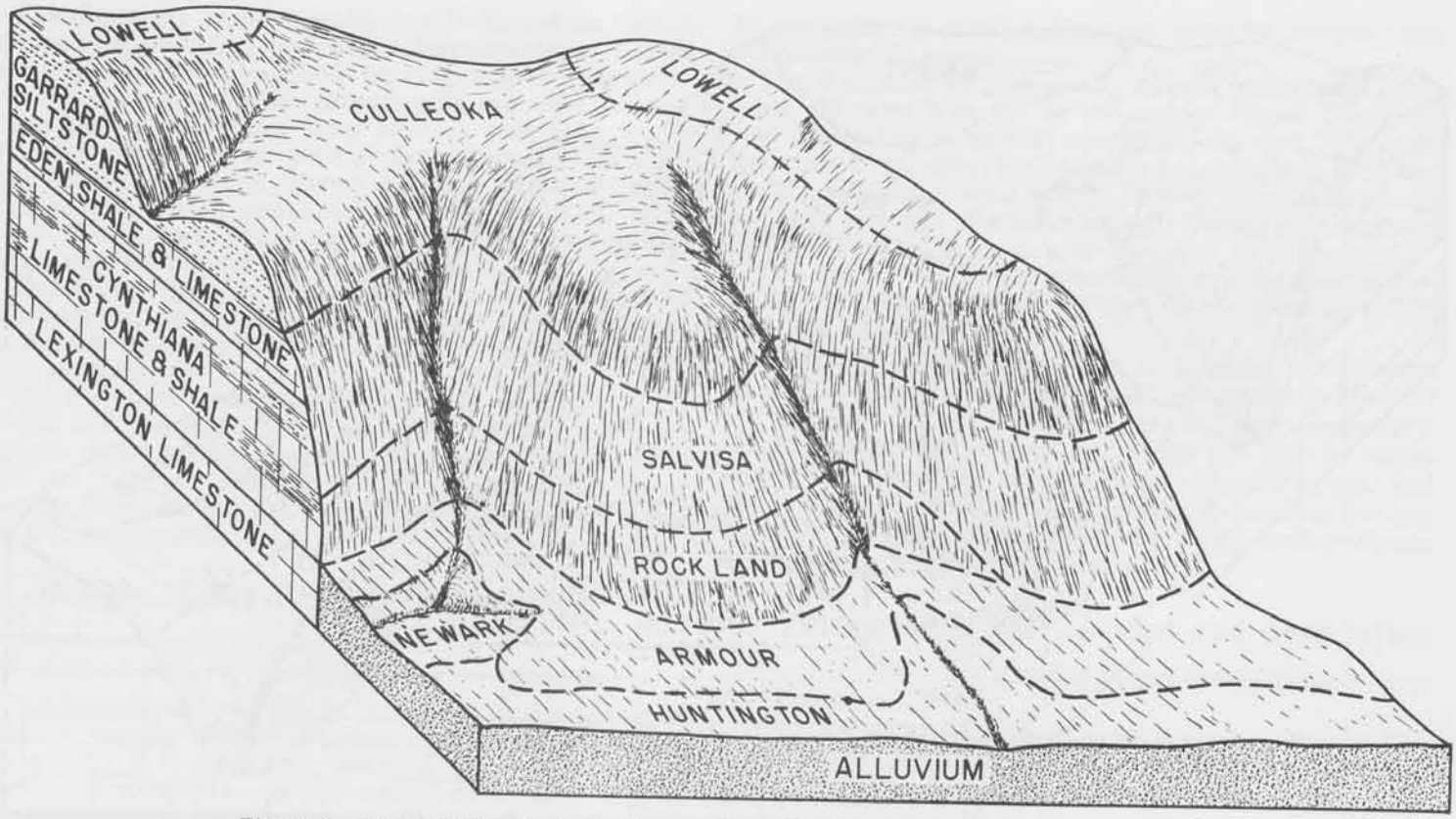

Figure 6.—**Relationship of soils to topography and underlying material in association 5.**

Descriptions of Soils

This section describes the soil series and mapping units of Fayette County. The approximate acreage and the proportionate extent of each mapping unit are given in table 1.

A general description of each soil series is given, and it is followed by brief descriptions of the mapping units in that series. For full information on any one mapping unit, it is necessary to read the description of the soil series as well as the description of the mapping unit.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the detailed soil map. Listed at the end of the description of each mapping unit is the capability unit in which the mapping unit has been placed. The page on which each capability unit is described can be found readily by referring to the "Guide to Mapping Units" at the back of the survey.

Soil scientists, engineers, students, and others who want detailed descriptions of soil series should turn to the section "Formation, Classification, and Morphology of Soils." Many terms used in this section and other sections are defined in the Glossary.

Armour Series

The Armour series consists of deep, well-drained, nearly level to sloping soils on stream terraces and on uplands. The soils of this series are mostly in the northern and western parts of the county. They formed mostly in silty material washed from soils of limestone origin. The silty deposits are about 3½ to 10 feet thick.

Representative profile:

0 to 16 inches, dark-brown or brown, very friable silt loam; weak, granular structure.
16 to 49 inches, brown silty clay loam that grades to reddish brown in the lower part; moderate, blocky structure.
49 to 56 inches, reddish-brown heavy silty clay loam; brown and light yellowish-brown mottles; weak, blocky structure.

These soils are well suited to crops commonly grown in the county. They are high in natural fertility and have a deep root zone. A few low-lying areas are subject to infrequent flooding, but crops are seldom damaged. About 300 acres has been used for residential development.

Armour silt loam, 0 to 2 percent slopes (ArA).—The profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid and medium in content of organic matter. The moisture-supplying capacity is high, and permeability is moderate. This soil can be tilled easily, without clodding or crusting, throughout a wide range of moisture content.

Mapped with this soil are a few small areas, along the Kentucky River, of a soil that has some sandy layers in the subsoil, or about 18 inches from the surface. These areas may be droughty.

This soil is well suited to crops commonly grown in this county, particularly alfalfa and burley tobacco. There is little or no hazard of erosion. In places, diversion channels are needed to intercept runoff from the slopes above and divert it into grassed waterways. A few low-lying areas are subject to infrequent flooding. (Capability unit I–3)

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

[Business section and older residential section of Lexington, a total of 4,100 acres, was not surveyed]

Soil	Acres	Percent	Soil	Acres	Percent
Armour silt loam, 0 to 2 percent slopes	780	0.4	Maury silt loam, 6 to 12 percent slopes, eroded	12,250	7.0
Armour silt loam, 2 to 6 percent slopes	2,590	1.5	Maury silt loam, 12 to 20 percent slopes, eroded	280	.2
Armour silt loam, 6 to 12 percent slopes	540	.3	Maury silty clay loam, 6 to 12 percent slopes, severely eroded	310	.2
Braxton silt loam, 2 to 6 percent slopes	530	.3	McAfee silt loam, 2 to 6 percent slopes	1,790	1.0
Braxton silt loam, 6 to 12 percent slopes, eroded	790	.5	McAfee silt loam, 6 to 12 percent slopes	2,990	1.7
Captina silt loam, 0 to 2 percent slopes	290	.2	McAfee silty clay, 6 to 12 percent slopes, severely eroded	470	.3
Captina silt loam, 2 to 6 percent slopes	640	.4	McAfee silty clay, 12 to 20 percent slopes, severely eroded	320	.2
Culleoka flaggy silt loam, 30 to 50 percent slopes, eroded	340	.2	McAfee silty clay loam, 2 to 6 percent slopes, eroded	760	.4
Culleoka silt loam, 6 to 12 percent slopes, eroded	180	.1	McAfee silty clay loam, 6 to 12 percent slopes, eroded	9,540	5.4
Donerail silt loam, 0 to 2 percent slopes	700	.4	McAfee silty clay loam, 12 to 20 percent slopes, eroded	3,120	1.8
Donerail silt loam, 2 to 6 percent slopes	2,030	1.2	McAfee very rocky silty clay loam, 6 to 20 percent slopes, eroded	1,370	.8
Donerail silt loam, 6 to 12 percent slopes	210	.1	McAfee very rocky silty clay loam, 20 to 30 percent slopes, eroded	270	.2
Egam silt loam	1,380	.8	McAfee very rocky silty clay, 12 to 20 percent slopes, severely eroded	250	.1
Egam silty clay loam	220	.1	Melvin silt loam	330	.2
Fairmount very rocky silty clay loam, 6 to 20 percent slopes	1,490	.9	Mercer silt loam, 0 to 2 percent slopes	110	.1
Fairmount very rocky silty clay loam, 10 to 30 percent slopes, severely eroded	2,250	1.3	Mercer silt loam, 2 to 6 percent slopes	4,920	2.8
Fairmount very rocky silty clay loam, 20 to 50 percent slopes	1,020	.6	Mercer silt loam, 2 to 6 percent slopes, eroded	230	.1
Huntington silt loam	7,580	4.3	Mercer silt loam, 6 to 12 percent slopes	1,130	.6
Lanton silty clay loam	2,190	1.3	Mercer silt loam, 6 to 12 percent slopes, eroded	1,310	.7
Lawrence silt loam	580	.3	Newark silt loam	2,970	1.7
Lindside silt loam	1,300	.7	Rock land	1,450	.8
Loradale silt loam, 2 to 6 percent slopes	5,310	3.0	Russellville silt loam, 2 to 6 percent slopes	350	.2
Loradale silt loam, 6 to 12 percent slopes	1,020	.6	Russellville silt loam, 6 to 12 percent slopes, eroded	230	.1
Loradale silt loam, 6 to 12 percent slopes, eroded	1,950	1.1	Salvisa silty clay, 6 to 12 percent slopes, severely eroded	590	.3
Loudon silt loam, phosphatic, 2 to 6 percent slopes	390	.2	Salvisa silty clay loam, 2 to 6 percent slopes, eroded	490	.3
Loudon silt loam, phosphatic, 6 to 12 percent slopes, eroded	310	.2	Salvisa silty clay loam, 6 to 12 percent slopes, eroded	2,500	1.4
Lowell silt loam, 2 to 6 percent slopes	9,770	5.6	Salvisa silty clay loam, 12 to 30 percent slopes, eroded	1,750	1.0
Lowell silt loam, 6 to 12 percent slopes, eroded	10,830	6.2	Urban land-Armour-Maury complex	1,390	.8
Lowell silt loam, 12 to 20 percent slopes, eroded	360	.2	Urban land-Loradale-Mercer complex	540	.3
Lowell silty clay loam, 6 to 12 percent slopes, severely eroded	790	.5	Water (lakes larger than 40 acres)	420	.2
Lowell silty clay loam, 12 to 20 percent slopes, severely eroded	310	.2	Total area surveyed	175,100	100.0
Made land, over silty materials	440	.2			
Made land, over clayey materials	840	.5			
Maury silt loam, 0 to 2 percent slopes	1,560	.9			
Maury silt loam, 2 to 6 percent slopes	49,090	28.0			
Maury silt loam, 2 to 6 percent slopes, eroded	2,590	1.5			
Maury silt loam, 6 to 12 percent slopes	7,480	4.3			

Armour silt loam, 2 to 6 percent slopes (ArB).—Except for having a surface layer only 12 to 14 inches thick, this soil has a profile like that described for the series. It is medium acid or strongly acid and medium in content of organic matter. The moisture-supplying capacity is high, and permeability is moderate. This soil can be tilled easily, without clodding or crusting, throughout a wide range of moisture content.

Mapped with this soil is a small acreage, along the Kentucky River, of a soil that has sandy layers in the subsoil. These areas are droughty.

This soil is well suited to crops commonly grown in this county, particularly alfalfa and burley tobacco. The hazard of erosion is moderate if cultivated crops are grown. Diversion channels can be used to intercept runoff from the slopes above and divert it into grassed waterways. A few low-lying areas are subject to infrequent flooding, but crops are seldom damaged. (Capability unit IIe–1)

Armour silt loam, 6 to 12 percent slopes (ArC).—The surface layer is only 8 to 10 inches thick, but the profile of this soil is otherwise like that described for the series. This soil is medium acid or strongly acid and medium in content of organic matter. The moisture-supplying capacity is high, and permeability is moderate. Good tilth is easily maintained.

This soil is well suited to crops commonly grown in the county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–1)

Braxton Series

The Braxton series consists of deep, well-drained, gently sloping to sloping soils on uplands. The soils of this series are mostly in the extreme western and south-

eastern parts of the county. They formed in material that weathered from cherty, phosphatic limestone.

Representative profile:

0 to 8 inches, dark-brown, very friable silt loam; weak, granular structure; few small fragments of chert.
8 to 15 inches, brown, friable silty clay loam; weak, blocky structure: few small fragments of chert.
15 to 35 inches, reddish-brown, cherty silty clay; moderate blocky structure.
35 to 48 inches, variegated yellowish-red and dark reddish-brown clay intermixed with pale-brown weathered chert; massive; very firm.

Fragments of chert, 1 to 5 inches in diameter, make up 10 to 40 percent of the subsoil. In places, the surface soil contains fragments of chert up to 3 inches in diameter. The depth to bedrock ranges from 3 to 8 feet.

These soils are suited to crops commonly grown in this county. They are high in natural fertility and have a deep root zone. Most of the acreage has been cleared and is used for pasture, row crops, small grain, and hay.

Braxton silt loam, 2 to 6 percent slopes (BrB).—This soil has a profile like the one described for the series. It is medium acid or strongly acid and medium in content of organic matter. The moisture-supplying capacity is moderately high or high, and permeability is moderate. This soil can be tilled easily, without clodding, throughout a wide range of moisture content.

This soil is well suited to crops commonly grown in this county. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–2)

Braxton silt loam, 6 to 12 percent slopes, eroded (BrC2).—This soil has a surface layer of heavy silt loam. Erosion has removed part of the original surface soil, and some subsoil has been mixed into the surface layer. The upper part of the subsoil is brown silty clay loam, and the lower part, below a depth of 11 inches, is reddish-brown, cherty silty clay.

This soil is medium acid or strongly acid and is low in content of organic matter. The moisture-supplying capacity is moderately high or high, and permeability is moderate. Tilth is good, except in a few places where there are fragments of chert.

Mapped with this soil is a small acreage of soil that has fragments of chert, up to 3 inches in diameter, in the surface layer.

This soil is suited to crops commonly grown in the county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–2)

Captina Series

The Captina series consists of nearly level and gently sloping, moderately well drained, medium-textured soils that have a fragipan. These soils are on stream terraces. They formed in alluvium washed mostly from soils of limestone origin. The alluvium is 3 to 12 feet thick. The depth to the fragipan ranges from 18 to 26 inches.

Representative profile:

0 to 8 inches, brown to dark-brown, very friable silt loam.
8 to 13 inches, yellowish-brown, friable silt loam; weak, blocky structure.
13 to 21 inches, yellowish-brown light silty clay loam; few pale-brown and strong-brown mottles; moderate, blocky structure.
21 to 40 inches, mottled brown, strong-brown, and light-gray silty clay loam; blocky structure; compact and brittle; fragipan.
40 to 54 inches, mottled light brownish-gray, yellowish-brown, and strong-brown silty clay; massive; many concretions in upper 6 inches.

These soils are suited to most crops commonly grown in this county and are used mostly for corn, small grain, hay, and pasture. They are medium acid or strongly acid, moderately high in natural fertility, and medium in content of organic matter. The moisture-supplying capacity is moderate. A few low-lying areas are subject to infrequent flooding, but crops are seldom damaged.

Captina silt loam, 0 to 2 percent slopes (CaA).—The profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid, medium in content of organic matter, and moderately high in natural fertility. The root zone is only moderately deep because of the fragipan in the subsoil. The moisture-supplying capacity is moderate. This soil is easy to till.

This soil is suited to most crops commonly grown in this county. Small areas in alfalfa fields usually start to thin out after about 2 years because the fragipan restricts the growth of roots. Burley tobacco does not grow well in either unusually wet or unusually dry seasons.

This soil can be cultivated continuously under high-level management. There is little or no hazard of erosion. In places, diversion channels are needed to intercept runoff from adjacent slopes and divert it into grassed waterways. A few low-lying areas are subject to infrequent flooding, but crops are seldom damaged. Wetness may prevent early planting in some years. (Capability unit IIw–1)

Captina silt loam, 2 to 6 percent slopes (CaB).—The profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid, medium in content of organic matter, and moderately high in natural fertility. The root zone is only moderately deep because of the fragipan in the subsoil. The moisture-supplying capacity is moderate.

This soil is suited to most crops commonly grown in this county. It is not well suited to alfalfa, because the fragipan in the subsoil restricts the growth of roots. Burley tobacco does not grow well in either unusually wet or unusually dry seasons.

The hazard of erosion is moderate if cultivated crops are grown. In places diversion channels are needed to intercept runoff from adjacent slopes and carry it into grassed waterways. A few low-lying areas are subject to infrequent flooding, but crops are seldom damaged. (Capability unit IIe–6)

Culleoka Series

The Culleoka series consists of deep, well drained and somewhat excessively drained, medium-textured soils on uplands. These soils occupy narrow, sloping ridgetops and steep side slopes in the extreme southeastern part of this county. The depth to bedrock ranges from 3 to 8 feet.

Representative profile:

0 to 8 inches, brown, very friable silt loam; weak, granular structure; few fragments of siltstone.
8 to 14 inches, brown, friable silt loam; weak, blocky structure; few fragments of siltstone.

14 to 30 inches, brown to strong-brown, friable silty clay loam; weak, blocky structure; common fragments of siltstone up to 8 inches in diameter.
30 to 40 inches +, intermixed layers of brown silty clay loam, silty clay, and weathered siltstone.

Culleoka soils on the ridgetops are suited to all crops commonly grown in this county, and those on the side slopes are suited to pasture or woodland. Pasture, hay, and burley tobacco are the main crops. About 70 percent of the acreage has been cleared, but part of this is idle. Brush is growing on many idle areas. These soils are medium acid or strongly acid, low in content of organic matter, and moderate in natural fertility.

Culleoka flaggy silt loam, 30 to 50 percent slopes, eroded (CfF2).—The surface layer of this soil contains many siltstone flags and is only about 4 inches thick; otherwise, the profile is like that described for the series. Erosion has removed much of the original surface soil, and in places the subsoil is exposed. Some shallow gullies have formed. This soil is medium acid or strongly acid, low in content of organic matter, and moderate in natural fertility. The root zone is deep. Permeability is moderate to moderately rapid, and the moisture-supplying capacity is low.

Mapped with this soil are a few small areas of a soil that is only moderately deep to bedrock and a small acreage of a soil that is less steep.

This soil is suited to some kinds of wildlife and to recreational uses. About half the acreage is in low-quality woodland, and the rest is used for pasture or is idle. Most of this soil is too steep to be mowed with a tractor. Runoff is very rapid, and the hazard of erosion is very severe. (Capability unit VIIe–1)

Culleoka silt loam, 6 to 12 percent slopes, eroded (CsC2).—The profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid, low in content of organic matter, and moderate in natural fertility. The root zone is deep, and permeability is moderate. The moisture-supplying capacity is moderately high. This soil can be tilled, without clodding, throughout a wide range of moisture content.

Mapped with this soil are a few areas that are strongly sloping.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–1)

Donerail Series

The Donerail series consists of deep, moderately well drained, undulating and gently rolling soils on uplands. These soils are mostly in the northern and western parts of the county. They formed in material weathered from phosphatic limestone.

Representative profile:

0 to 10 inches, dark-brown, very friable silt loam.
10 to 17 inches, brown, friable silty clay loam; moderate, blocky structure.
17 to 28 inches, dark yellowish-brown light silty clay; few pale-brown and strong-brown mottles; moderate, blocky structure.
28 to 49 inches, mottled strong-brown and light brownish-gray silty clay or clay; many black concretions; weak, blocky structure to massive.

These soils are suited to most crops commonly grown in this county, and most of the acreage is in crops. About 700 acres is now urban. Burley tobacco does not grow well on these soils in wet years, and alfalfa usually starts to thin out after 2 or 3 years. These soils are medium acid or strongly acid, medium in content of organic matter, and high in natural fertility.

Donerail silt loam, 0 to 2 percent slopes (DoA).—Except for having a surface layer about 12 inches thick, this soil has a profile like the one described as representative of the series. It is medium acid or strongly acid, medium in content of organic matter, and high in natural fertility. The root zone is moderately deep, and permeability is moderately slow. The moisture-supplying capacity is moderate. This soil is easy to till.

This soil is suited to most crops commonly grown in this county. Wetness may prevent early spring planting. Burley tobacco does not grow well in wet years, and alfalfa usually starts to thin out after 2 or 3 years, because of wetness. Runoff is slow, and there is little or no hazard of erosion. (Capability unit IIw–1)

Donerail silt loam, 2 to 6 percent slopes (DoB).—The profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid, medium in content of organic matter, and high in natural fertility. The root zone is moderately deep. Permeability is moderately slow, and the moisture-supplying capacity is moderate.

This soil is suited to most crops commonly grown in this county. Burley tobacco does not grow well in wet years, and alfalfa usually starts to thin out after 2 or 3 years, because of wetness. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–6)

Donerail silt loam, 6 to 12 percent slopes (DoC).—Except that the surface layer is about 8 inches thick, the profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid, medium in content of organic matter, and high in natural fertility. The root zone is moderately deep. Permeability is moderately slow, and the moisture-supplying capacity is moderate. This soil can be worked, without clodding or crusting, throughout a wide range of moisture content.

Mapped with this soil is a small acreage in which the plow layer is a mixture of the original surface soil and subsoil.

This soil is suited to most crops commonly grown in this county. Burley tobacco does not grow well in wet years, and alfalfa usually starts to thin out after 2 or 3 years, because of wetness. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–8)

Egam Series

The Egam series consists of deep, well drained and moderately well drained soils on flood plains. These soils formed in alluvium washed from soils of limestone origin. They occur mostly in the northern and western parts of this county.

Representative profile:

0 to 8 inches, dark-brown, very friable silt loam; weak, granular structure.
8 to 18 inches, dark-brown, friable silty clay loam; moderate, granular and blocky structure.

18 to 31 inches, very dark grayish-brown heavy silty clay loam; weak, granular and blocky structure.
31 to 46 inches +, dark yellowish-brown heavy silty clay loam or silty clay; common, dark grayish-brown mottles.

These soils are suited to all crops commonly grown in this county. They are neutral or slightly acid, medium in content of organic matter, and high in natural fertility. The moisture-supplying capacity is high, and permeability is moderately slow. These soils are flooded occasionally, but since the flooding normally occurs in winter, crops are seldom damaged.

Egam silt loam (Ea).—This soil is level or nearly level. The profile is like that described as representative of the series. The root zone is deep. Permeability is moderately slow. This soil can be tilled easily, without clodding or crusting, throughout a wide range of moisture content.

This soil is suited to all crops commonly grown in this county. It is flooded occasionally, but since most floods occur before the growing season, they seldom damage crops. There is no erosion hazard. (Capability unit I–1)

Egam silty clay loam (Ec).—This soil is level or nearly level. Except for texture of the surface layer, the profile is like that described as representative of the series. The uppermost 18 inches is dark-brown silty clay loam. The root zone is deep. Permeability is moderately slow. The range of moisture content within which this soil can be worked, without clodding or crusting, is narrow.

This soil is suited to all crops commonly grown in this county. It is flooded occasionally, but since the floods occur before the growing season, they seldom damage crops. There is no hazard of erosion. (Capability unit IIs–3)

Fairmount Series

The Fairmount series consists of sloping to steep, very rocky, shallow, somewhat excessively drained soils. These soils formed in fine-textured residuum derived from argillaceous limestone. They occur in rough, broken areas, mostly in the southeastern part of this county.

Representative profile:

0 to 3 inches, very dark grayish-brown silty clay loam; sticky and plastic when wet; strong, granular structure.
3 to 8 inches, very dark grayish-brown, firm silty clay; very sticky and plastic when wet; strong, granular and blocky structure.
8 to 14 inches, variegated dark yellowish-brown and very dark gray, very firm clay; very sticky and very plastic when wet; moderate, blocky structure.
14 inches +, argillaceous limestone.

In slightly eroded areas, the surface layer is silty clay loam. Loose limestone slabs, in varying numbers, occur on the surface and throughout the profile. The depth to bedrock ranges from about 10 to 20 inches, and rock outcrops cover from 10 to 25 percent of the surface.

Nearly half of the acreage is in low-quality hardwoods and redcedar, which are of little value except for fenceposts and cordwood. The rest of the acreage is used mostly for pasture but is suitable for only limited grazing. These soils are neutral or slightly alkaline. The moisture-supplying capacity is low or very low.

Fairmount very rocky silty clay loam, 6 to 20 percent slopes (FaD).—Except that the surface layer is about 6 inches thick, the profile of this soil is like that described as representative of the series. The root zone is shallow or very shallow, and the moisture-supplying capacity is low or very low.

Mapped with this soil are some areas, ranging up to 3 acres in size, in which rock outcrops make up 25 to 90 percent of the surface area.

This soil is suited to pasture, woodland, and wildlife. The pasture plants should be able to withstand drought, and pastures should not be overgrazed. The woodlands consist of low-quality hardwoods and redcedar, which are suitable mainly for fenceposts and cordwood. This soil is susceptible to erosion if ground cover is not adequate. (Capability unit VIs–1)

Fairmount very rocky silty clay loam, 10 to 30 percent slopes, severely eroded (FaD3).—The profile of this soil is like that described as representative of the series. The root zone is shallow or very shallow, and the moisture-supplying capacity is very low.

Mapped with this soil are some areas, ranging up to 3 acres in size, in which rock outcrops make up 25 to 90 percent of the surface area.

This soil is suitable mainly for woodland and wildlife. A few areas provide limited grazing if seeded to drought-resistant pasture plants. Some fenceposts and some cordwood can be harvested from the woodlands. (Capability unit VIIs–2)

Fairmount very rocky silty clay loam, 20 to 50 percent slopes (FaF).—Except that the surface layer is about 6 inches thick, the profile of this soil is like that described as representative of the series. The root zone is shallow or very shallow. The moisture-supplying capacity is very low.

Mapped with this soil are some areas, ranging up to 3 acres in size, in which rock outcrops make up 25 to 90 percent of the surface area.

This soil is suitable mainly for woodland and wildlife. A few areas provide limited grazing if seeded to drought-resistant pasture plants. Some fenceposts and some cordwood can be harvested, but growth is slow. (Capability unit VIIs–2)

Huntington Series

The Huntington series consists of deep, well-drained, medium-textured soils that occur on flood plains and in depressions throughout the county. These soils formed in materials that washed from limestone soils.

Representative profile:

0 to 28 inches, dark-brown, very friable silt loam; weak, granular structure.
28 to 37 inches, brown heavy silt loam; friable; weak, granular structure.
37 to 54 inches +, dark yellowish-brown light silty clay loam; few light brownish-gray mottles.

These soils are well suited to all crops commonly grown in this county. They are neutral or slightly acid, medium in content of organic matter, and high in natural fertility. The moisture-supplying capacity is high, and permeability is moderate. These soils are flooded occasionally, but since the flooding normally occurs in winter, crops are seldom damaged. About 400 acres is now urban.

Huntington silt loam (Hu).—This soil is level or nearly level. The profile is like that described as representative of the series. This soil is easy to till and can be worked,

without clodding or crusting, throughout a wide range of moisture content. The root zone is deep.

Included in the areas mapped are a few small areas of fine sandy loam.

This soil is well suited to all crops commonly grown in this county. It is flooded occasionally, but since the floods occur in winter, crops are seldom damaged. There is no hazard of erosion. (Capability unit I–1)

Lanton Series

The Lanton series consists of deep, somewhat poorly drained or poorly drained, dark-colored soils on flood plains. These soils formed in fine-textured alluvium derived from limestone.

Representative profile:

0 to 23 inches, very dark grayish-brown, friable silty clay loam; moderate, granular structure.
23 to 31 inches, very dark gray silty clay; olive-brown mottles; massive.
31 to 48 inches +, mottled dark-gray and light olive-brown, plastic clay; massive.

Lanton soils, if artificially drained, are suited to most crops commonly grown in this county. They are used mainly for corn, hay, and pasture. They are neutral or slightly acid, high in content of organic matter, and high in natural fertility. The moisture-supplying capacity is high, and permeability is moderately slow. The water table is seasonally high, and flooding is a hazard.

Lanton silty clay loam (la).—This soil is level or nearly level. The profile is like that described as representative of the series. The root zone is moderately deep; a clay layer at a depth of about 30 inches restricts roots. The range of moisture content within which this soil can be worked, without clodding or crusting, is narrow.

This soil, if artificially drained, is suited to most crops commonly grown in this county. It can be cultivated year after year under high-level management. Burley tobacco is not well suited, because there are normally some wet spots, even after drainage. There is a flood hazard but no erosion hazard. (Capability unit IIIw–7)

Lawrence Series

The Lawrence series consists of nearly level, somewhat poorly drained soils that have a fragipan at a depth of about 18 to 20 inches. These soils occur mainly in the east-central part of the county. They formed in material weathered from limestone and calcareous shale.

Representative profile:

0 to 8 inches, dark grayish-brown, very friable silt loam; weak, granular structure.
8 to 13 inches, brown, friable silt loam; common, light-gray mottles; weak, blocky structure.
13 to 20 inches, pale-brown heavy silt loam; many yellowish-brown and light brownish-gray mottles; moderate, blocky structure.
20 to 33 inches, light-gray silty clay loam; yellowish-brown mottles; compact and brittle; fragipan.
33 to 48 inches +, mottled gray and olive-brown silty clay; massive; sticky and plastic.

These soils are used mainly for pasture, but some corn is grown also. The water table is seasonally high, but the moisture-supplying capacity is moderately low because the fragipan limits the root zone. The depth to the fragipan ranges from 15 to 24 inches. A few low areas are subject to infrequent flooding. These soils are strongly acid, low in organic-matter content, and moderately low in natural fertility.

Lawrence silt loam (lc).—This soil is level or nearly level. The profile is like that described as representative of the series. This soil is strongly acid, low in content of organic matter, and moderately low in natural fertility. The root zone is shallow or moderately deep, because of the fragipan. Permeability in the fragipan is slow. The moisture-supplying capacity is moderately low.

This soil is easy to till, but a seasonal high water table may prevent early planting. The major limitations are wetness and a limited root zone. (Capability unit IIIw–1)

Lindside Series

The Lindside series consists of nearly level, deep, moderately well drained soils on flood plains. These soils formed in alluvium washed mainly from soils of limestone origin.

Representative profile:

0 to 8 inches, dark-brown very friable silt loam; weak, granular structure.
8 to 30 inches, dark grayish-brown friable silt loam; grayish-brown mottles below 17 inches; weak, granular structure.
30 to 48 inches +, gray to dark-gray silt loam; dark yellowish-brown mottles; massive.

These soils are suited to most crops commonly grown in this county. They are neutral or slightly acid and are high in natural fertility. The root zone is deep. These soils are flooded occasionally, but since the floods normally occur in winter, crops are seldom damaged. For high-value crops, such as burley tobacco, tile drainage may be worth while. The moisture-supplying capacity is high.

Lindside silt loam (ld).—This soil is level or nearly level. The profile is like that described as representative of the series. This soil is neutral or slightly acid, medium in content of organic matter, and high in natural fertility. The root zone is deep. Permeability is moderate, and the moisture-supplying capacity is high. This soil is easy to till.

This soil is suited to most crops commonly grown in this county. It is flooded occasionally, but since the floods occur in winter, they seldom damage crops. Burley tobacco does not grow well in wet years. Tile drainage may be worth while for high-value crops, such as tobacco. There is no hazard of erosion. (Capability unit I–1)

Loradale Series

The Loradale series consists of gently sloping or sloping, deep, well-drained soils that formed in residuum from limestone and calcareous shale. These soils occupy ridgetops and gentle hillsides, mainly in the east-central part of this county.

Representative profile:

0 to 11 inches, dark-brown, very friable silt loam; weak, granular structure.
11 to 23 inches, brown silty clay loam; friable to firm; moderate, blocky structure.
23 to 42 inches, strong-brown, very firm silty clay that grades to yellowish-brown in lower part; moderate, blocky structure.
42 to 54 inches +, mottled yellowish-brown and pale-brown, very plastic clay; massive.

These soils are suited to all crops commonly grown in this county. They are used for row crops, small grain, hay, and pasture. About 700 acres is now urban. These soils are medium acid or strongly acid and are high in natural fertility. Permeability is moderately slow, and the moisture-supplying capacity is high.

Loradale silt loam, 2 to 6 percent slopes (LoB).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter. The root zone is deep. This soil can be worked, without clodding or crusting, throughout a wide range of moisture content. Included in the areas mapped are some eroded areas in which some subsoil is mixed into the surface layer.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–2)

Loradale silt loam, 6 to 12 percent slopes (LoC).—Except for a surface layer only 8 inches thick, the profile of this soil is like that described as representative of the series. The soil is medium in content of organic matter. The root zone is deep. This soil is easy to till and can be worked, without clodding or crusting, throughout a wide range of moisture content.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–2)

Loradale silt loam, 6 to 12 percent slopes, eroded (LoC2).—This soil has a dark-brown to brown surface layer of heavy silt loam. Erosion has removed part of the original surface layer, and some subsoil has been mixed into the plow layer. Otherwise, the profile of this soil is like that described as representative of the series. The root zone is deep, the content of organic matter is low, and tilth is good.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–2)

Loudon Series

The Loudon series consists of gently sloping and sloping, deep, somewhat poorly drained soils on broad ridgetops and around the head of drains. These soils are mainly in the eastern part of the county and in a small area north of Greendale. They formed in residuum derived from interbedded limestone and calcareous shale.

Representative profile:

0 to 7 inches, dark grayish-brown, very friable silt loam.
7 to 17 inches, yellowish-brown, firm silty clay loam; few pale-brown mottles; moderate, blocky structure.
17 to 24 inches, yellowish-brown, plastic silty clay; light-gray and strong-brown mottles; moderate, blocky structure.
24 to 45 inches +, mottled strong-brown, light brownish-gray, and light-gray, very plastic clay; massive.

These soils are best suited to crops that tolerate wetness. All of the acreage has been cleared. Most of it is used for hay and pasture, but corn is grown in a few areas. These soils are strongly acid, moderate in natural fertility, and moderately slow in permeability. They have a seasonal high water table, and the shrink-swell potential is high.

Loudon silt loam, phosphatic, 2 to 6 percent slopes (LpB).—The profile of this soil is like that described as representative of the series. This soil has a moderately deep to shallow root zone because of a plastic clay layer in the subsoil. The content of organic matter is medium. The moisture-supplying capacity is moderately low.

Included in the areas mapped is a small acreage of nearly level soil.

This soil is easy to till, but wetness may prevent plowing early in spring. The hazard of erosion is moderate if cultivated crops are grown. The cropping system should be one that will effectively control erosion and maintain soil structure. (Capability unit IIIw–1)

Loudon silt loam, phosphatic, 6 to 12 percent slopes, eroded (LpC2).—This soil has a surface layer of brown, friable heavy silt loam, which is a mixture of the original surface soil and subsoil. Otherwise, this soil has a profile like the one described as representative of the series. The content of organic matter is medium. The root zone is moderately deep to shallow, because of a seasonal high water table and a plastic clay layer in the subsoil. Tillage is easy. The moisture-supplying capacity is moderately low.

Included in the areas mapped are some small areas of a soil that has a darker colored surface layer and a small acreage of a soil that is moderately well drained.

This soil is not well suited to alfalfa or other deep-rooted crops, because of the seasonal high water table. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–8)

Lowell Series

The Lowell series consists of undulating and gently rolling, deep, well drained and moderately well drained soils on uplands. These soils are mainly in the east-central part of the county. They formed in material weathered from interbedded limestone and calcareous shale.

Representative profile:

0 to 9 inches, brown, very friable silt loam; weak, granular structure.
9 to 16 inches, dark yellowish-brown, firm silty clay loam; weak, blocky structure.
16 to 33 inches, yellowish-brown, plastic silty clay; common, pale-brown mottles in lower part; blocky structure.
33 to 48 inches +, yellowish-brown, very plastic clay; many light brownish-gray mottles; massive.

These soils are suited to all crops commonly grown in this county. They are medium acid or strongly acid, and permeability is moderately slow. Most of the acreage has been cleared and is used for row crops, small grain, hay, and pasture (fig. 7). About 1,200 acres is now urban.

Lowell silt loam, 2 to 6 percent slopes (LwB).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter and moderately high in natural fertility. The root zone is moderately deep to deep. The moisture-supplying capacity is high. This soil is easy to till and can be worked, without clodding or crusting, throughout a wide range of moisture content.

This soil is well suited to all crops commonly grown in this county. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–2)

Lowell silt loam, 6 to 12 percent slopes, eroded (LwC2).—This soil has a surface layer of brown heavy silt

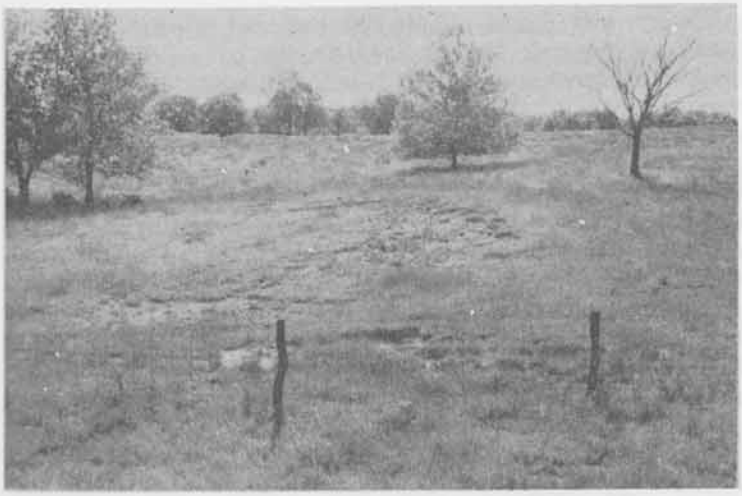

Figure 7.—Pasture on severely eroded Lowell silty clay loam. This soil has many galled spots, and grass is difficult to establish.

loam about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into the plow layer. A few shallow gullies have formed in some places. Otherwise, the profile of this soil is like that described as representative of the series. The organic-matter content is low, and natural fertility is moderately high. The root zone is only moderately deep because of a restrictive clay layer. The moisture-supplying capacity is moderately high. This soil is easy to till.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–2)

Lowell silt loam, 12 to 20 percent slopes, eroded (LwD2).—This soil has a surface layer of brown heavy silt loam about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into this layer. A few shallow gullies have formed in some places. Otherwise, the profile of this soil is like that described as representative of the series. This soil is low in content of organic matter and moderately high in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately low. This soil can be worked, without clodding, throughout a fairly wide range of moisture content.

Included in the areas mapped are small severely eroded areas in which little of the original surface layer remains.

Under high-level management, this soil is suited to most hay and pasture plants. It should be cultivated only occasionally, because the hazard of erosion is very severe. (Capability unit IVe–3)

Lowell silty clay loam, 6 to 12 percent slopes, severely eroded (LyC3).—This soil has a dark yellowish-brown surface layer that consists mostly of what was originally subsoil. Shallow gullies have formed in places. The subsoil is yellowish-brown, plastic silty clay that is underlain by massive clay at a depth of 20 to 26 inches. This soil is very low in content of organic matter and moderately low in natural fertility. The root zone is moderately deep because of a restrictive clay layer. The moisture-supplying capacity is moderately low. This soil can be worked, without clodding or crusting, only within a narrow range of moisture content.

This severely eroded soil is suitable for only occasional cultivation. Drought-resistant hay and pasture plants are the best crops. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IVe–11)

Lowell silty clay loam, 12 to 20 percent slopes, severely eroded (LyD3).—This soil has a brown, firm surface layer that is composed mostly of what was originally the upper part of the subsoil. The subsoil is yellowish-brown silty clay that grades into massive clay at about 20 to 26 inches. Some shallow gullies have formed in places. The content of organic matter is very low; natural fertility is moderate. The root zone is moderately deep. The moisture-supplying capacity is moderately low.

Included in the areas mapped is a small acreage that is moderately steep and a few areas in which the surface layer is heavy silt loam.

This soil is suited to hay and pasture but not to cultivated crops. The hazard of erosion is severe. (Capability unit VIe–1)

Made Land

Made land consists of areas in which at least 20 inches of clayey fill material has been placed over the original soils.

Made land, over silty materials (Md).—This mapping unit consists of fill material over alluvial soils along small streams and drainageways. The Huntington and Lanton soils are the most extensive of the underlying alluvial soils.

These areas are suited to recreational uses. This land type is so variable that onsite investigation is necessary to establish the capability classification of any given area.

Made land, over clayey materials (Me).—This mapping unit consists of fill material over well-drained, clayey soils on limestone uplands. The Maury and Lowell soils are the most extensive of the underlying clayey soils.

Most of this unit is in residential developments. This land type is so variable that onsite investigation is necessary to establish the capability classification of any given area.

Maury Series

The Maury series consists of nearly level to strongly sloping, deep, well-drained soils on uplands. These soils are mainly in the northern and western parts of the county, but some areas are in the eastern part. They formed mostly in material weathered from phosphatic limestone but partly in a mantle of silt.

Representative profile:

0 to 14 inches, dark-brown, very friable silt loam; moderate, granular structure.
14 to 38 inches, reddish-brown, friable silty clay loam that grades into silty clay in the lower part; moderate, blocky structure.
38 to 66 inches, yellowish-red, firm silty clay; moderate, blocky structure.
66 to 88 inches, yellowish-red, plastic clay; strong-brown and light yellowish-brown variegations.

These soils are used for row crops, small grain, hay, and pasture. About 7,000 acres has been absorbed into urban developments. These soils are medium acid or strongly acid. The surface texture is silty clay loam in severely eroded areas. The root zone is deep, and permeability is

moderate to a depth of about 60 inches. In places, underground water has formed solution caverns in the underlying limestone.

Maury silt loam, 0 to 2 percent slopes (MlA).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter and is naturally fertile. The root zone is deep. The moisture-supplying capacity is high. This soil is easy to till and can be worked, without clodding or crusting, throughout a wide range of moisture content.

This soil is well suited to all crops commonly grown in this county. Alfalfa and burley tobacco grow well. There is little or no hazard of erosion. (Capability unit I–3)

Maury silt loam, 2 to 6 percent slopes (MlB).—The surface layer is 10 to 12 inches thick, but the profile is otherwise like that described as representative of the series. It is high in natural fertility and medium in content of organic matter. The root zone is deep. The moisture-supplying capacity is high. This soil can be cultivated, without clodding or crusting, throughout a wide range of moisture content.

This soil is well suited to all crops commonly grown in this county. Alfalfa and burley tobacco grow well. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–1)

Maury silt loam, 2 to 6 percent slopes, eroded (MlB2).—This soil has a surface layer of dark-brown to reddish-brown, friable, heavy silt loam about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into the plow layer. Otherwise, the profile of this soil is like that described as representative of the series. This soil is medium acid or strongly acid and is high in natural fertility. Although the organic-matter content is low, tilth is good. The root zone is deep. The moisture-supplying capacity is high.

This soil is well suited to all crops commonly grown in this county. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–1)

Maury silt loam, 6 to 12 percent slopes (MlC).—The surface layer is about 8 inches thick, but the profile of this soil is otherwise like that described as representative of the series. It is high in natural fertility and medium in content of organic matter. The root zone is deep. The moisture-supplying capacity is high. This soil can be tilled, without clodding or crusting, throughout a wide range of moisture content.

This soil is suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–1)

Maury silt loam, 6 to 12 percent slopes, eroded (MlC2).—This soil has a surface layer of dark-brown to reddish-brown, friable heavy silt loam about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into the plow layer. Otherwise, the profile of this soil is like that described as representative of the series. This soil is high in natural fertility. Although low in content of organic matter, it is easy to till. The root zone is deep. The moisture-supplying capacity is high.

This soil is well suited to all crops commonly grown in this county. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–1)

Maury silt loam, 12 to 20 percent slopes, eroded (MlD2).—This soil has a dark-brown to reddish-brown, friable surface layer 6 or 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into the plow layer. Otherwise, the profile of this soil is like that described as representative of the series. Natural fertility is high. Although the organic-matter content is low, tilth is good. The root zone is deep. The moisture-supplying capacity is moderately high.

Included in mapping is a small acreage of a soil that has been severely eroded and now has a silty clay loam surface layer.

This soil is suited to all crops commonly grown in this county, but it should be cultivated only occasionally and should be used for hay or pasture most of the time. The hazard of erosion is very severe if cultivated crops are grown. (Capability unit IVe–1)

Maury silty clay loam, 6 to 12 percent slopes, severely eroded (MmC3).—This soil has a reddish-brown surface layer that consists almost entirely of what was originally the subsoil. The original surface layer has been removed by erosion, and shallow gullies have formed in some places. Otherwise, the profile of this soil is like that described as representative of the series. This soil is moderate in natural fertility and very low in content of organic matter. The root zone is deep. The moisture-supplying capacity is moderately high. The range of moisture content within which this soil can be tilled, without clodding or crusting, is narrow.

This soil is suited to most crops commonly grown in this county, but it should be kept most of the time in drought-resistant grasses and legumes. The hazard of erosion is very severe if cultivated crops are grown. (Capability unit IVe–9)

McAfee Series

The McAfee series consists of gently sloping to moderately steep, well drained to somewhat excessively drained soils on uplands. These soils are mostly in the northern, western, and southeastern parts of the county. They formed in material weathered from phosphatic limestone. They are moderately deep or shallow over bedrock and have rock outcrops in places.

Representative profile:

0 to 7 inches, dark-brown, very friable silt loam; moderate, granular structure.
7 to 18 inches, dark reddish-brown, very firm silty clay; strong, blocky structure.
18 to 26 inches, dark reddish-brown clay; strong-brown variegations; massive.
26 inches +, phosphatic limestone.

These soils are used mostly for hay and pasture, but a few of the gentle slopes are used for tobacco or corn. About 1,200 acres has been absorbed into urban developments. These soils are slightly acid or medium acid. Permeability is moderately slow or moderate. The texture of the surface soil is silty clay loam in eroded areas and silty clay in severely eroded areas. Solution caverns occur in the limestone bedrock, which is at a depth of 15 to 36 inches.

McAfee silt loam, 2 to 6 percent slopes (MnB).—The profile of this soil is like that described as representative

of the series. This soil is medium in content of organic matter and moderately high in natural fertility. The root zone is moderately deep. Tillage is easy. The moisture-supplying capacity is moderately high.

This soil is suited to most crops commonly grown in the county. The moderate depth of the root zone limits its suitability for deep-rooted crops. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–10)

McAfee silt loam, 6 to 12 percent slopes (MnC).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter and moderately high in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately high. Tillage is easy.

This soil is suited to most of the crops commonly grown in this county. The moderate depth of the root zone limits its suitability for deep-rooted crops. The hazard of erosion is very severe if cultivated crops are grown. (Capability unit IVe–6)

McAfee silty clay, 6 to 12 percent slopes, severely eroded (MoC3).—This soil has a dark reddish-brown, plastic surface layer that consists almost entirely of what was originally the subsoil. The uppermost few inches of the present subsoil is dark reddish-brown silty clay over very plastic clay. The average depth to bedrock is about 19 inches. A few rock outcrops and some shallow gullies occur in places. This soil is very low in content of organic matter and moderate in natural fertility. The root zone is shallow. The moisture-supplying capacity is low.

This soil is not suited to cultivated crops, because of shallowness and the hazard of further erosion. It is suited to hay and pasture. (Capability unit VIe–4)

McAfee silty clay, 12 to 20 percent slopes, severely eroded (MoD3).—This soil has a dark reddish-brown, plastic surface layer that consists almost entirely of what was originally the subsoil. The uppermost few inches of the present subsoil is a dark reddish-brown silty clay over plastic clay. The depth to bedrock is ordinarily about 18 inches. A few rock outcrops and some shallow gullies occur in places. This soil is very low in content of organic matter and moderate in natural fertility. The root zone is shallow. The moisture-supplying capacity is low.

This soil is not suited to cultivated crops, because of shallowness and the hazard of further erosion. (Capability unit VIe–4)

McAfee silty clay loam, 2 to 6 percent slopes, eroded (MpB2).—This soil has a dark-brown to dark reddish-brown, friable surface layer about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into this layer. The upper part of the subsoil is dark reddish-brown, plastic silty clay that grades into very plastic clay at about 17 inches. The depth to bedrock is ordinarily about 25 inches. This soil is very low in content of organic matter and moderately high in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately high. The range of moisture content within which this soil can be cultivated, without clodding or crusting, is narrow.

This soil is suited to all crops commonly grown in this county, but the depth of the root zone limits its suitability for deep-rooted crops. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–10)

McAfee silty clay loam, 6 to 12 percent slopes, eroded (MpC2).—This soil has a dark-brown to dark reddish-brown, friable surface layer about 6 inches thick. Erosion has removed part of the original surface layer, and some subsoil has been mixed into this layer. The upper part of the subsoil is dark reddish-brown, plastic silty clay that grades into very plastic clay at a depth of about 15 inches. The depth to bedrock is ordinarily about 23 inches. This soil is low in content of organic matter and moderately high in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately low. Tillage is somewhat difficult.

This soil is suited to most crops commonly grown in this county, but it should be cultivated only occasionally. Most of the time it should be used for drought-resistant grasses and legumes. The hazard of erosion is very severe if cultivated crops are grown. (Capability unit IVe–6)

McAfee silty clay loam, 12 to 20 percent slopes, eroded (MpD2).—This soil has a dark-brown to dark reddish-brown surface layer that is a mixture of the original surface soil and subsoil. The upper part of the subsoil is dark reddish-brown, plastic silty clay that grades into very plastic clay at a depth of about 13 inches. The depth to bedrock is ordinarily about 21 inches. A few rock outcrops occur in places. This soil is low in content of organic matter and moderately high in natural fertility. The root zone is moderately deep or shallow. The moisture-supplying capacity is moderately low.

This soil is not suited to row crops, because of the hazard of erosion. It is suited to hay and pasture crops. The shallow or moderately deep root zone limits its suitability for deep-rooted crops. (Capability unit VIe–1)

McAfee very rocky silty clay loam, 6 to 20 percent slopes, eroded (MrD2).—This soil has a dark-brown to dark reddish-brown surface layer that is a mixture of the original surface soil and subsoil. The uppermost few inches of the subsoil is dark reddish-brown, plastic silty clay over very plastic clay. The depth to bedrock is ordinarily about 20 inches, and exposed bedrock makes up about 10 to 20 percent of the surface. There are a few shallow gullies, and loose limestone slabs are common on the surface. This soil is low in content of organic matter and moderate in natural fertility. The root zone is shallow or moderately deep. The moisture-supplying capacity is low.

This soil is not suited to row crops, because of shallowness and droughtiness. If well managed, it produces fairly good pasture. (Capability unit VIs–1)

McAfee very rocky silty clay loam, 20 to 30 percent slopes, eroded (MrE2).—This soil has a dark reddish-brown, firm surface layer that is a mixture of the original surface soil and the subsoil. The uppermost few inches of the subsoil is dark reddish-brown, plastic silty clay loam that grades into very plastic clay. The depth to bedrock is ordinarily about 18 inches. Rock outcrops make up about 10 to 20 percent of the surface, and loose limestone slabs are numerous. Shallow gullies have formed in places. This soil is low in content of organic matter and moderate in natural fertility. The root zone is shallow. The moisture-supplying capacity is very low.

This soil is suited to trees and to close-growing grasses and legumes. (Capability unit VIIs–2)

McAfee very rocky silty clay, 12 to 20 percent slopes, severely eroded (MsD3).—This soil has a dark reddish-brown, plastic surface layer that contains little of the original surface soil. The subsoil is dark reddish-brown, very plastic clay. The depth to bedrock is ordinarily about 16 inches, and rock outcrops make up about 15 to 25 percent of the surface. Loose limestone slabs are numerous, and shallow gullies have formed in some places. This soil is very low in content of organic matter and moderately low in natural fertility. The root zone is shallow. The moisture-supplying capacity is low.

This soil is too shallow and droughty for row crops. It is suited to woodland and limited grazing. (Capability unit VIIs–2)

Melvin Series

The Melvin series consists of nearly level, deep, poorly drained soils on flood plains. These soils formed in alluvium washed from soils derived from limestone and calcareous shale.

Representative profile:

0 to 8 inches, grayish-brown, very friable silt loam; dark yellowish-brown mottles.
8 to 48 inches +, gray silt loam that grades into silty clay loam at a depth of about 30 inches; many dark yellowish-brown and dark grayish-brown mottles.

These soils are suited to willows or other water-tolerant trees and to pasture. Unless artificially drained, they are not suited to cultivated crops. Flooding and a high water table are limitations. These soils are neutral or slightly acid. They are low in content of organic matter, moderately low in natural fertility, and moderately permeable. The moisture-supplying capacity is high.

Melvin silt loam (Mt).—This soil is level or nearly level. The profile is like that described as representative of the series. If it is artificially drained, this soil can be used for corn and for a variety of forage crops. There is no hazard of erosion. Flooding, ponding, and a seasonal high water table are hazards that limit the growth of plants. (Capability unit IIIw–5)

Mercer Series

The Mercer series consists of nearly level to sloping, deep, moderately well drained soils that have a fragipan. These soils are mainly in the east-central part of the county, north and south of Winchester Road. They formed in material weathered from limestone interbedded with thin layers of calcareous shale. They are located generally on broad ridgetops and around the head of drains.

Representative profile:

0 to 8 inches, dark grayish-brown, very friable silt loam; weak, granular structure.
8 to 14 inches, dark yellowish-brown, friable silt loam; weak, granular structure.
14 to 21 inches, yellowish-brown silty clay loam; weak, blocky structure.
21 to 38 inches, mottled yellowish-brown and light brownish-gray silty clay loam; compact and brittle; fragipan.
38 to 48 inches +, yellowish-brown very plastic clay; many gray mottles; massive.

These soils are suited to most crops commonly grown in this county. Alfalfa does not grow well, because the fragipan restricts the growth of roots. These soils are medium acid or strongly acid and are moderate in natural fertility. Permeability is slow. The depth to the fragipan ranges from about 15 to 26 inches, and the fragipan is from 12 to 24 inches thick.

Mercer silt loam, 0 to 2 percent slopes (MuA).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter. The root zone is moderately deep. The moisture-supplying capacity is moderate. Tillage is easy, but wetness may prevent early spring plowing.

This soil is suited to most crops commonly grown in this county. Alfalfa, however, starts to thin out after about 2 years, because of wetness, and burley tobacco does not grow well during unusually wet or unusually dry years. There is little or no hazard of erosion. (Capability unit IIw–1)

Mercer silt loam, 2 to 6 percent slopes (MuB).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter. The root zone is moderately deep. The moisture-supplying capacity is moderate.

This soil is suited to most crops commonly grown in this county. Alfalfa is not well suited, because the fragipan restricts the growth of roots. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–6)

Mercer silt loam, 2 to 6 percent slopes, eroded (MuB2).—This soil has a brown, friable surface layer about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into this layer. Otherwise, the profile of this soil is like that described as representative of the series. Although low in content of organic matter, this soil is easy to till. The root zone is shallow or moderately deep. The moisture-supplying capacity is moderately low.

This soil is suited to most crops commonly grown in this county, although it is somewhat droughty. It is not well suited to alfalfa, because of the shallow root zone and seasonal wetness. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–6)

Mercer silt loam, 6 to 12 percent slopes (MuC).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter. The root zone is moderately deep. The moisture-supplying capacity is moderate.

This soil is suited to most crops commonly grown in this county. Alfalfa, however, starts to thin out after about 2 years, because of the moderately deep root zone and seasonal wetness. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–8)

Mercer silt loam, 6 to 12 percent slopes, eroded (MuC2).—This soil has a brown, friable surface layer that is a mixture of the original surface soil and subsoil. Otherwise, the profile of this soil is like that described as representative of the series. Although low in content of organic matter, this soil is easy to till. The root zone is shallow. The moisture-supplying capacity is moderately low.

This soil is fairly well suited to most crops commonly grown in this county. It is not well suited to alfalfa, because of a shallow root zone and seasonal wetness. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–8)

Newark Series

The Newark series consists of nearly level, deep, somewhat poorly drained soils on flood plains. These soils are mostly in the eastern part of the county. They formed in alluvium washed from soils derived from limestone and calcareous shale.

Representative profile:

0 to 11 inches, dark grayish-brown, very friable silt loam; grayish-brown mottles in the lower part.
11 to 18 inches, grayish-brown, friable silt loam; yellowish-brown mottles.
18 to 48 inches +, gray silt loam that grades into silty clay loam; yellowish-brown and dark yellowish-brown mottles.

These soils are used mostly for pasture, but corn and hay are grown in some places. They are neutral or slightly acid, moderate or moderately high in natural fertility, and moderately permeable. The texture of the lowest layer may be silt loam or light silty clay loam. The flood hazard and a seasonal high water table are limitations. The moisture-supplying capacity is high.

Newark silt loam (Ne).—This soil is level or nearly level. The profile is like that described as representative of the series.

Unless this soil is artificially drained, the choice of crops is limited. Flooding is a moderate hazard, and scouring may occur in some places. Wetness is the main limitation. (Capability unit IIw–4)

Rock Land

Rock land (Rk) consists of areas where rock outcrop or a very thin layer of soil material over rock makes up 25 to 90 percent of the surface. Fairmount soils occupy the areas between the rocks. Most of this land type is in the southeastern part of the county. The slope is generally more than 20 percent, but the slope range is wide.

This mapping unit is suitable only for woodland, wildlife areas, or pasture (fig. 8). Most of the trees are low-quality hardwoods and redcedars, and the pastures are suitable for only limited grazing (Capability unit VIIs–2)

Figure 8.—**Low-quality pasture on Rock land.**

Russellville Series

The Russellville series consists of gently sloping and sloping, well drained and moderately well drained soils that have a fragipan. These soils occur on broad ridgetops and gentle slopes in a small area about 2 miles east of Lexington, north and south of Winchester Road.

Representative profile:

0 to 8 inches, dark-brown, very friable silt loam.
8 to 33 inches, brown silt loam that grades with depth into strong-brown silty clay loam; a few pale-brown and light-gray mottles in the lower part; moderate, blocky structure.
33 to 48 inches, mottled strong-brown, yellowish-red, and light-gray silty clay loam; weak, blocky structure; fragipan.
48 to 62 inches, mottled strong-brown, light yellowish-brown, and red silty clay; massive.

These soils are suited to all crops commonly grown in this county. They are strongly acid and are moderately high in natural fertility. The lowest horizon is clay in places. Permeability is moderate above the fragipan and slow in the fragipan. The depth to the fragipan ranges from 28 to 36 inches. Alfalfa may start to thin out after a few years, because the fragipan restricts the growth of roots. These soils have a seasonal high water table.

Russellville silt loam, 2 to 6 percent slopes (RuB).—The profile of this soil is like that described as representative of the series. This soil is medium in content of organic matter. The root zone is moderately deep. The moisture-supplying capacity is moderately high.

This soil is suited to crops commonly grown in this county. Alfalfa may start to thin out after a few years, because the fragipan restricts the growth of roots. The hazard of erosion is moderate if cultivated crops are grown. (Capability unit IIe–2)

Russellville silt loam, 6 to 12 percent slopes, eroded (RuC2).—This soil has a brown, friable surface layer about 7 inches thick. Erosion has removed part of the original surface soil, and some subsoil has been mixed into this layer. Otherwise, the profile of this soil is like that described as representative of the series. Although this soil is low in content of organic matter, it has good tilth. The root zone is moderately deep. The moisture-supplying capacity is moderately high.

This soil is suited to all crops commonly grown in this county. Alfalfa may start to thin out after a few years, because the fragipan restricts the growth of roots. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–2)

Salvisa Series

The Salvisa series consists of gently sloping to moderately steep, well drained or somewhat excessively drained, moderately deep or shallow soils on uplands. These soils occur mostly in the eastern half of the county. They formed in material weathered from limestone and calcareous shale. Rock outcrops occur in places.

Representative profile:

0 to 7 inches, very dark grayish-brown, friable silty clay loam; moderate, granular and blocky structure.
7 to 16 inches, dark yellowish-brown, plastic silty clay; moderate, blocky structure.
16 to 28 inches, yellowish-brown, very plastic clay; many light yellowish-brown and light grayish-brown mottles; weak, blocky structure to massive in the lower part.
28 inches +, interbedded limestone and calcareous shale.

These soils are suited to forage crops. They are neutral or slightly acid, and permeability is moderately slow. The texture of the surface layer is silty clay in severely eroded areas. The depth to bedrock ranges from about 15 to 36 inches. About 80 percent of the acreage is cleared and is used mostly for hay and pasture. About 400 acres has been absorbed into urban developments.

Salvisa silty clay, 6 to 12 percent slopes, severely eroded (ScC3).—This soil has a dark yellowish-brown surface layer composed mostly of what was originally the subsoil. Erosion has removed the original surface soil and has formed shallow gullies in places. The subsoil is yellowish-brown, very plastic clay. It overlies bedrock at a depth of about 18 to 20 inches. This soil is very low in content of organic matter and moderately low in natural fertility. The root zone is shallow. The moisture-supplying capacity is low.

Included in the areas mapped are some areas of a strongly sloping soil.

This soil is not suited to cultivated crops, because of the effects of erosion. (Capability unit VIe–4)

Salvisa silty clay loam, 2 to 6 percent slopes, eroded (ScB2).—The profile of this soil is like that described as representative of the series. This soil is low in content of organic matter and moderate in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately high. The range of moisture content within which this soil can be tilled, without clodding and crusting, is narrow.

Included in the areas mapped is a small acreage of a soil that has a thicker, less clayey surface soil.

This soil is suited to all crops commonly grown in this county, but the moderate depth of the root zone limits its suitability for deep-rooted crops. The hazard of erosion is severe if cultivated crops are grown. (Capability unit IIIe–10)

Salvisa silty clay loam, 6 to 12 percent slopes, eroded (ScC2).—This soil has a surface layer about 6 inches thick. Erosion has removed part of the original surface soil, and some of the original subsoil has been mixed into the plow layer. The upper part of the subsoil is dark yellowish-brown silty clay. This grades into yellowish-brown, very plastic clay at a depth of about 14 inches. The depth to bedrock is ordinarily about 2 feet. This soil is low in content of organic matter and moderate in natural fertility. The root zone is moderately deep. The moisture-supplying capacity is moderately low. Tillage is difficult because of a tendency to clod.

This soil is well suited to drought-resistant crops. Although the hazard of erosion is very severe, cultivated crops can be grown occasionally. (Capability unit IVe–6)

Salvisa silty clay loam, 12 to 30 percent slopes, eroded (ScE2).—This soil has a very dark grayish-brown surface layer that is a mixture of the original surface soil and subsoil. The subsoil is dark yellowish-brown silty clay that grades to yellowish-brown, very plastic clay at a depth of about 12 inches. The depth to bedrock is ordinarily about 20 inches, and some rock ledges are exposed on the surface. This soil is neutral or slightly acid, low in content of organic matter, and moderate in natural fertility. The root zone is shallow to moderately deep. The moisture-supplying capacity is low.

Included in the areas mapped are some areas of a soil that has steep slopes.

This soil is not suited to cultivated crops, because of the effects of erosion. It is suited to drought-resistant forage crops. (Capability unit VIe–1)

Urban Land Complexes

These complexes consist of soils from which the upper layers have been removed in grading.

Urban land-Armour-Maury complex (Ua).—Before grading, these areas consisted mainly of the well-drained Armour and Maury soils. The remaining soil material is generally reddish-brown, plastic, clayey, and moderately permeable. This land type is so variable that onsite investigation is necessary to establish the capability classification of any given area.

Urban land-Loradale-Mercer complex (Um).—Before grading, these areas consisted mainly of the well drained Loradale and the moderately well drained Mercer soils. The remaining soil material is generally yellowish brown, very plastic, clayey, and slowly or moderately slowly permeable. This land type is so variable that onsite investigation is necessary to establish the capability classification of any given area.

Use of Soils for Crops and Pasture

This section describes some basic practices of management for soils used for crops and pasture. The system of capability grouping is defined, and the use and management of the soils in each capability unit are discussed. Also given in this section are estimated yields of the principal crops under high-level and medium-level management.

General Principles of Soil Management

Most of the soils in Fayette County are naturally acid and have a medium or low supply of nitrogen and potassium and a high or medium supply of phosphorus. Ordinarily, the response to lime and fertilizer is good. The amounts to be applied depend on past cropping, on the type of soil, on the crops to be grown, and on the level of yield desired. The amounts applied should be based largely on the results of laboratory analysis of soil samples. Information and instructions on collecting samples and testing them can be obtained from a local representative of the Soil Conservation Service or from the county extension agent.

Most of the soils are medium or low in organic-matter content. It is not generally feasible to build up the content to a high level, but it is important to maintain the supply. This can be done by applying manure, by utilizing crop residues, and by encouraging the growth of plants.

Tillage tends to destroy the structure of a soil; consequently, it should be limited to the operations necessary for the preparation of a seedbed and the control of weeds. Adding organic matter and growing sod crops help to restore the structure.

A major problem in Fayette County is controlling runoff so as to reduce the hazard of erosion. Sheet and gully erosion cause large losses of organic matter and plant nutrients. All of the sloping soils in the county are subject to erosion if cultivated. Suitable crop rotations,