

NONTECHNICAL SOIL DESCRIPTIONS
Calhoun & ROANE COUNTIES, WEST VIRGINIA
AGRONOMIC (AGR)
Basic Soils (SOI)
GRASSLAND SUITABILITY GROUPS (GSG)

GpF3 - Gilpin-peabody complex, 35 to 70 percent slopes, severely eroded

AGR - These soils are not suited to cultivated crops or hay and are difficult to manage for pasture. The hazard of erosion is very severe in unprotected areas.

SOI - This Gilpin-Peabody soil complex consists of Gilpin and Peabody soils which are intermixed in such an intricate pattern that they cannot be separated in mapping at this scale. Soil slips and shallow gullies are found in some areas of this severely eroded unit. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate. Peabody soils are moderately deep well drained soils which formed in clay shale and interbedded siltstone. They have moderate to moderately fine textured surface and moderately fine to fine textured subsoils which become sticky and plastic when wet. Estimated soil permeability is moderately slow to slow (0.6 to 0.06 inches per hour). The depth to bedrock is generally at depths ranging from 20 to 40 inches and rippable with light power equipment. Natural fertility of the Peabody soil is moderate or high and available water capacity is moderate. The Peabody soils have a slip hazard, especially on slopes greater than 8 percent. The subsoil is highly susceptible to shrinking when dry and swelling when wet.

GSG - Acid Hills Moderately deep, deep, very deep moderately well and well drained soils with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally less than 5.3. Slope ranges 25 to 60 percent or 25 to 45 percent if severely eroded. Annual precipitation is 41 to 50 inches.

GvF - Gilpin-pineville complex, 35 to 70 percent slopes, very stony

AGR - These soils are not suited to cultivated crops, hay, or pasture because of slope, surface stones and rock outcrops that generally make these soils unsuitable for farming.

SOI - This Gilpin-Pinville complex consists of intermixed Gilpin and Pineville soils. Stones that are 10 to 24 inches in diameter cover 1 to 3 percent of the soil surface. These soils are so intermixed in a complex pattern that they cannot be separated in mapping at this scale. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate. Pineville soils are very deep, well drained soils formed in colluvial sediments on sideslopes. These Pineville soils have medium surface and subsurface textures. The depth to bedrock is greater than 65 inches. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Natural fertility of the Pineville soil is low to moderate and available water capacity is moderate to high. These soils may have included areas of rock-outcrops.

GSG - Very Rocky Acid Soils Moderately deep, deep, and very deep well drained soils with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally below 5.3. Slope ranges from 0 to 25 percent. Soils in this group have a very cobbly, very stony, or very rocky surface. Annual precipitation is 41 to 50 inches.

Ha - Hackers silt loam

AGR - This soil is well suited to cultivated crops and to hay and pasture. Cultivated crops can be grown continuously, but the soil needs the protection of a cover crop. Working the residue from the cover crop into the soil helps to maintain fertility and tilth. If this soil is used for pasture, the major management needs include rotational grazing and proper stocking rates to maintain desirable grasses and legumes.

SOI - These Hackers soils are deep (greater than 5 feet to bedrock), well drained soils that formed in alluvial high bottom sediments. They have medium textured surface layer and a medium to moderately fine textured subsoil. Estimated permeability is moderate (0.6 to 2.0 inches per hour). These soils have a rare flood hazard and they are flooded only when flood waters are at their highest. Natural fertility is high and available water capacity is high.

GSG - Moist Loams-Deep and very deep, well drained soils with high natural fertility. High moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

MoB - Monongahela silt loam, 3 to 8 percent slopes

AGR - This soil is suited to cultivated crops and to hay and pasture. The hazard of erosion, which is moderate in unprotected areas, is a management concern. If this soil is cultivated, farming on the contour, using a crop sequence that included hay, and returning crop residue to the soil help to control erosion and to maintain fertility and tilth. If this soil is used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Monongahela soils are very deep, moderately well drained soils on high stream terraces. They have medium textured surface layers and medium to moderately fine textured subsoils. Monongahela soils have a firm and brittle fragipan layer 18 to 30 inches below the surface, which has slow (estimated 0.06 to 0.2 inches per hour) permeability. They have a seasonal high water table at 18 to 30 inches below the surface. Bedrock is generally at depths greater than 5 feet. Natural fertility is low and available water capacity is moderate.

GSG - Acid Loams Moderately deep, deep, and very deep moderately well and well drained with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally less than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

Ms - Moshannon silt loam

AGR - This soil is suited to cultivated crops and to hay and pasture. Cultivated crops can be grown continuously, but the soil needs the protection of a cover crop. Working the residue from the cover crop into the soil helps to maintain fertility and tilth. In places, crops are subject to damage from flooding. If this soil is used for pasture, the major management needs include rotational grazing and proper stocking rates to maintain desirable grasses and legumes, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Moshannon soils are deep, well drained, and have formed in recent alluvial sediments along major streams. The Moshannon soils have a moderate permeability (0.6 to 2.0 inches per hour). They generally have a medium soil texture in the surface and subsoil. Bedrock is generally at depths greater than 5 feet. These soils are generally subject to occasional flooding. Natural fertility is high and available water capacity is high.

GSG - Moist Loams Deep and very deep, well drained soils with high natural fertility. High moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

PvE - Pineville loam, 25 to 35 percent slopes, very stony

AGR - These stony soils are not suited to cultivated crops or hay and are difficult to manage for pasture. The erosion hazard is very severe in unprotected areas.

SOI - These Pineville soils are very deep, well drained soils formed in colluvial sediments on footslopes and in coves. These Pineville soils have medium surface and subsurface textures. The depth to bedrock is greater than 65 inches. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Natural fertility of the Pineville soil is low to moderate and available water capacity is moderate to high. Stones that are 10 to 24 inches in diameter cover 1 to 3 percent of the surface.

GSG - Very Rocky Acid Soils Moderately deep, deep, and very deep well drained soils with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally below 5.3. Slope ranges from 0 to 25 percent. Soils in this group have a very cobbly, very stony, or very rocky surface. Annual precipitation is 41 to 50 inches.

RpF3 - Rock outcrop-peabody-gilpin complex, 35 to 70 percent slopes, severely eroded

AGR - These soils are not suited to cultivated crops, hay, or pasture because of slope, surface stones and rock outcrops that generally make these soils unsuitable for farming.

SOI - This Rock outcrop-Peabody-Gilpin soil complex consists of Rock outcrops, Peabody and Gilpin soils which are intermixed in such an intricate pattern that they cannot be separated in mapping at this scale. Soil slips and shallow gullies are found in some areas of this severely eroded unit. The Rock outcrop areas consists of vertical escarpments of sandstone and shale that follow the contour of the land. Boulders are on some benches and at the base of some slopes. The boulders and rock outcrops may occupy 40 percent or more of the unit. Peabody soils are moderately deep well drained soils which formed in clay shale and interbedded siltstone. They have moderate to moderately fine textured surface and moderately fine to fine textured subsoils which become sticky and plastic when wet. Estimated soil permeability is moderately slow to slow (0.6 to 0.06 inches per hour). The depth to bedrock is generally at depths ranging from 20 to 40 inches and rippable with light power equipment. Natural fertility of the Peabody soil is moderate or high and available water capacity is moderate. The Peabody soils have a slip hazard, especially on slopes greater than 8 percent. The subsoil is highly susceptible to shrinking when dry and swelling when wet. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate.

GSG - Very Rocky Acid Soils Moderately deep, deep, and very deep well drained soils with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally below 5.3. Slope ranges from 0 to 25 percent. Soils in this group have a very cobbly, very stony, or very rocky surface. Annual precipitation is 41 to 50 inches.

Sc - Senecaville silt loam, rarely flooded

AGR - This soil is suited to cultivated crops and to hay and pasture. Cultivated crops can be grown continuously, but the soil needs the protection of a cover crop. Working the residue from the cover crop into the soil helps to maintain fertility and tilth. If this soil is used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Senecaville soils are very deep (generally greater than 5 feet to bedrock), moderately well drained (seasonal high water table at a depth of 16 to 24 inches) soils that have formed in alluvial sediments along streams and drainageways. They generally have a silt loam surface layer and a silt loam subsoil. The estimated soil permeability is moderate (0.6 to 2.0 inches per hour). These soils have a flood hazard, but may have included areas of no flooding. Natural fertility is high and available water capacity is high.

GSG - Moist Loams Deep and very deep, well drained soils with high natural fertility. High moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

Sm - Senecaville and Melvin silt loams, occasionally flooded

AGR - This soil is suited to cultivated crops and to hay and pasture. Cultivated crops can be grown continuously, but the soil needs the protection of a cover crop. Working the residue from the cover crop into the soil helps to maintain fertility and tilth. If this soil is used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - This map unit consists of areas with mostly Senecaville soils, areas with mostly Melvin soils and areas with both soils. These Senecaville soils are very deep (generally greater than 5 feet to bedrock), moderately well drained (seasonal high water table at a depth of 16 to 24 inches) soils that have formed in alluvial sediments along streams and drainageways. They generally have a silt loam surface layer and a silt loam subsoil. The estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Natural fertility is high and available water capacity is high. These Melvin soils are very deep (greater than 6 feet to bedrock), poorly drained (seasonal high water

table at or near the surface) soils that have formed in alluvial sediments along streams and drainageways. They have a silt loam surface layer and silty clay loam subsoil. Estimated permeability is moderate (0.6 to 2.0 inches per hour). Natural fertility is high and available water capacity is high. These soils are usually located on the landscape in depression or low areas between better drained soils. These Melvin soils are considered as hydric soils and usually found in wetlands in a natural undrained site. These Senecaville and Melvin soils have an occasional flood hazard, but may have included areas of rare or no flooding.

GSG - Moist Loams Deep and very deep, well drained soils with high natural fertility. High moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

Ss - Sensabaugh silt loam

AGR - This soil is suited to cultivated crops and to hay and pasture. Cultivated crops can be grown continuously but the soil needs the protection of a cover crop. Working the residue from the cover crop into the soil helps to maintain fertility and tilth. In places, crops are subject to damage from flooding. If this soil is used for pasture, the major management needs include rotational grazing and proper stocking rates to maintain desirable grasses and legumes, and deferment of grazing until the soil is reasonably firm.

SOI - These Sensabaugh soils are generally very deep (greater than 5 feet to bedrock), well drained soils found mostly on bottomland floodplains along small stream. These soils have a medium textured surface and a medium textured gravelly subsoil. The estimated soil permeability is moderate to moderately rapid (0.6 to 6.0 inches per hour). Sensabaugh soils have a gravel layer (15 to 45 percent rock fragments) at depths ranging from 20 to 40 inches. They generally flood occasionally with an exception of high bottoms or alluvial fan areas having a rare flood hazard. Natural fertility is moderate or high and available water capacity is high.

GSG - Moist Loams Deep and very deep, well drained soils with high natural fertility. High moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

TsB - Tilsit silt loam, 3 to 8 percent slopes

AGR - This soil is suited to cultivated crops and to hay and pasture. The hazard of erosion, which is moderate in unprotected areas, is a management concern. If this soil is cultivated, farming on the contour, using a crop sequence that included hay, and returning crop residue to the soil help to control erosion and to maintain fertility and tilth. If this soil is used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Tilsit soils are deep and moderately well drained (seasonal high water table 16 to 24 inches below soil surface). They have formed in acid material weathered from acid siltstone or shale found mostly on ridge tops. Bedrock is generally at depths greater than 48 inches. These soils have a medium textured surface and subsoil. A very firm, dense layer fragipan is found at a depth of 20 to 30 inches, restricting the downward flow of water and air. The estimated soil permeability is slow (less than 0.2 inches per hour). Natural fertility is low and available water capacity is moderate.

GSG - Acid Loams Moderately deep, deep, and very deep moderately well and well drained with low natural fertility. Moderate to high soil moisture holding capacity and pH is normally less than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

Ud - Udorthents, smoothed

AGR - These Udorthents are not suited to cultivated crops or hay, but have a limited suitability for pasture on some areas. They are better suited to woodland or wildlife.

SOI - This Udorthents, smoothed unit is a miscellaneous area of disturbed soil material, that is too variable to assign any specific soil properties. The miscellaneous soil area ranges from dominantly clay to loam soil with or without rock material ranging from a few gravels to a massive bedrock escarpment.

GSG - Not Suited All other soils that have a combination of soil properties and climate limitations that make them not suited for forage production because adequate growth for forage use plus soil stabilization is normally not possible.

UgC3 - Upshur-Gilpin complex, 8 to 15 percent slopes, severely eroded

AGR - These soils have limited suitability for cultivated crops and are better suited to hay or pasture. The hazard of erosion, which is very severe in unprotected areas, is a major management concern. In addition, the Upshur soil is difficult to work and will become puddled if worked when too wet. Using a conservation tillage system, growing crops in contour strips, maintaining sod in shallow drainageways, using a crop sequence that includes hay, and returning crop residue to the soil help to control erosion and to maintain fertility and tilth. If the soils are used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing until the Upshur soil is reasonably firm.

SOI - This soil map unit consists of Upshur and Gilpin soils intermixed in such an intricate pattern that they cannot be separated in mapping at this scale. Soil slips and shallow gullies are found in some areas of this severely eroded unit. The Upshur soils dominate this map unit. Upshur soils are deep well drained soils which formed in lime influenced material weathered from red and olive shale. They have moderately fine textured surface and fine textured subsoils which become sticky and plastic when wet. Estimated soil permeability is very slow (less than 0.2 inches per hour). Bedrock is generally rippable with light power equipment. Upshur soils have a slip hazard, especially on slopes greater than 8 percent. Their subsoil are highly susceptible to shrinking when dry and swelling when wet. Natural fertility of the Upshur soil is moderately high and available water capacity is moderate to high. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate.

GSG - Fertile Loams Moderately deep, deep, and very deep moderately well and well drained soils with moderate natural fertility. Moderate soil moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

UgD3 - Upshur-Gilpin complex, 15 to 25 percent slopes, severely eroded

AGR - These soils are not suited to cultivated crops or hay, but are suited to pasture. The hazard of erosion is very severe in unprotected areas and is a major management concern. If these soils are used for pasture, overgrazing can result in more severe erosion. Proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing until the Upshur soil is reasonably firm are major pasture management needs.

SOI - This soil map unit consists of Upshur and Gilpin soils intermixed in such an intricate pattern that they cannot be separated in mapping at this scale. Soil slips and shallow gullies are found in some areas of this severely eroded unit. The Upshur soils dominate this map unit. Upshur soils are deep well drained soils which formed in lime influenced material weathered from red and olive shale. They have moderately fine textured surface and fine textured subsoils which become sticky and plastic when wet. Estimated soil permeability is very slow (less than 0.2 inches per hour). Bedrock is generally rippable with light power equipment. Upshur soils have a slip hazard, especially on slopes greater than 8 percent. Their subsoil are highly susceptible to shrinking when dry and swelling when wet. Natural fertility of the Upshur soil is moderately high and available water capacity is moderate to high. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine

textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate.

GSG - Fertile Loams Moderately deep, deep, and very deep moderately well and well drained soils with moderate natural fertility. Moderate soil moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

UgE3 - Upshur-Gilpin complex, 25 to 35 percent slopes, severely eroded

AGR - These soils are not suited to cultivated crops or hay and are difficult to manage for pasture. The hazard of erosion is very severe in unprotected areas. Bare areas are difficult to revegetate, but they should be seeded to permanent cover. Mulching will help protect seeded areas until the plants become established.

SOI - This soil map unit consists of Upshur and Gilpin soils intermixed in such an intricate pattern that they cannot be separated in mapping at this scale. Soil slips and shallow gullies are found in some areas of this severely eroded unit. The Upshur soils dominate this map unit. Upshur soils are deep well drained soils which formed in lime influenced material weathered from red and olive shale. They have moderately fine textured surface and fine textured subsoils which become sticky and plastic when wet. Estimated soil permeability is very slow (less than 0.2 inches per hour). Bedrock is generally rippable with light power equipment. Upshur soils have a slip hazard, especially on slopes greater than 8 percent. Their subsoil are highly susceptible to shrinking when dry and swelling when wet. Natural fertility of the Upshur soil is moderately high and available water capacity is moderate to high. Gilpin soils are moderately deep, well drained soils which formed from acid shale, siltstone, and sandstone. They have medium textured surface and medium to moderately fine textured subsoil. Estimated soil permeability is moderate (0.6 to 2.0 inches per hour). Bedrock is at depths of 20 to 40 inches. The bedrock is generally rippable with light power equipment. Natural fertility of the Gilpin soil is low or moderate and available water capacity is low or moderate.

GSG - Fertile Hills Moderately deep, deep, and very deep moderately well drained soils with moderate natural fertility. Moderate soil moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 25 to 60 percent or 25 to 45 percent if severely eroded. Annual precipitation is 41 to 50 inches.

VaD - Vandalia silt loam, 15 to 25 percent slopes

AGR - This soil has limited suitability for cultivated crops. It is better suited to hay or pasture. The hazard of erosion, which is severe in unprotected areas, is a major management concern. Using a conservation tillage system, growing crops in contour strips, maintaining sod in shallow drainageways, using a crop sequence that includes hay, and returning crop residue to the soil help to control erosion and to maintain fertility and tilth. If this soil is used for pasture, the major management needs include proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Vandalia soils are well drained, red soils on colluvial footslopes. They have a moderately fine textured surface and a fine textured subsoil. Estimated permeability is moderately slow to slow (0.6 to 0.06 inches per hour). Vandalia soils have a slip hazard, especially when slopes are greater than 8%. Their subsoils are highly susceptible to shrinking when drying and swelling upon wetting. Bedrock is generally at depths greater than 5 feet. Natural fertility is moderate or high and available water capacity is moderate or high.

GSG - Fertile Loams Moderately deep, deep, and very deep moderately well and well drained soils with moderate natural fertility. Moderate soil moisture holding capacity and pH is normally greater than 5.3. Slope ranges from 0 to 25 percent. Annual precipitation is 41 to 50 inches.

VbD - Vandalia silt loam, 15 to 25 percent slopes, extremely bouldery

AGR - This extremely Bouldery soil is not suited to cultivated crops or hay, but is somewhat suited to pasture. Boulders restrict the use of farm machinery. The hazard of erosion, which is severe in unprotected areas, is a major management concern. If this soil is used for pasture, the major management needs include removal of surface Boulders, proper stocking rates to maintain desirable grasses and legumes, rotational grazing, and deferment of grazing in the spring until the soil is reasonably firm.

SOI - These Vandalia extremely bouldery soils are well drained, red soils on colluvial footslopes. These Vandalia extremely bouldery soils have 3 to 15 percent boulder cover (greater than 2 feet in diameter) on the surface with some included stony areas. They have a moderately fine textured surface and a fine textured subsoil. Estimated permeability is moderately slow to slow (0.6 to 0.06 inches per hour). Vandalia soils have a slip hazard, especially when slopes are greater than 8%. Their subsoils are highly susceptible to shrinking when drying and swelling upon wetting. Bedrock is generally at depths greater than 5 feet. Natural fertility is moderate or high and available water capacity is moderate or high.

GSG – Very Rocky, Limy Soils Moderately deep, deep, and very deep well drained soils with high natural fertility. Moderate to high soil moisture holding capacity and pH is above 5.3. Slope ranges from 25 to 45 percent. Soils in this group have a very cobbly, very stony, or very rocky surface. Annual precipitation is 41 to 50 inches.