

Great Soil Groups and their suitability to forestry

- Acid brown earth
- Brown earth (high base)
- Brown podzolic
- Grey brown podzolic
- Podzol
- Peaty podzol
- Gley
- Peaty gley
- Rendzina
- Lithosol
- Peat

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Acid brown earth

- Well drained mineral soil
- Good soil physical properties
- Very productive soil
- Formed from various acidic parent materials
- Highly suitable to broadleaf and conifer production

Fairly uniform soil profile throughout with little leaching of minerals



Brown earth (high base)



- **Well drained mineral soil**
- **Possess desirable soil physical characteristics**
- **Formed from lime-rich, calcareous parent materials**
- **Little leaching or translocation of elements in the soil profile**
- **High pH may limit use range for certain tree species**

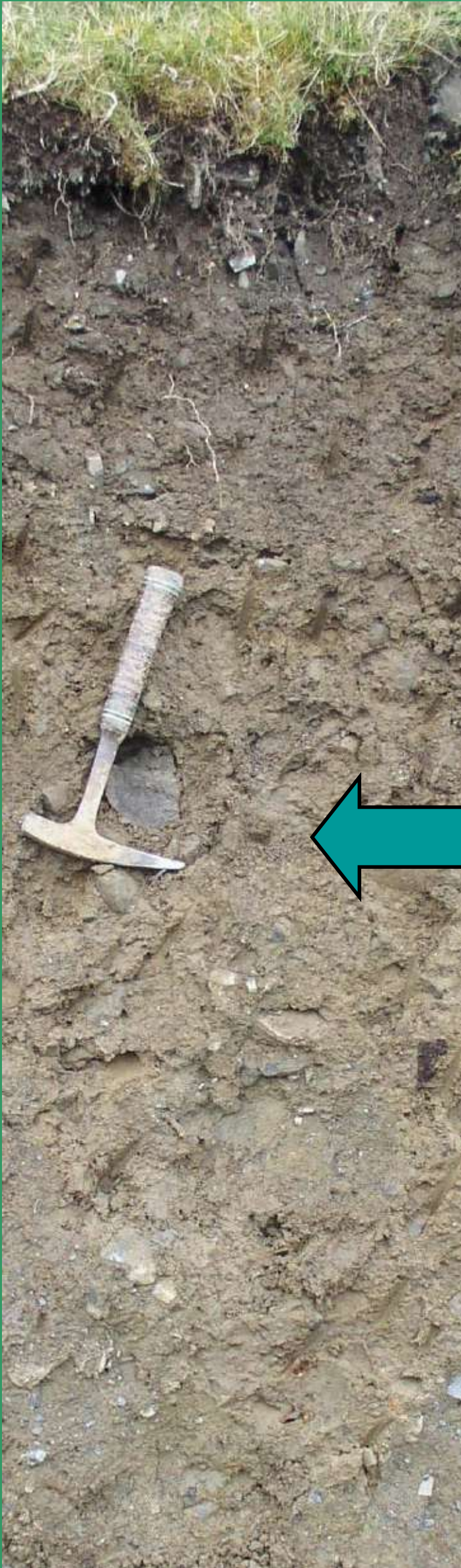
Brown podzolic



Reddish / brown colour indicates accumulation of leached iron

- Well drained, acid mineral soil
- Derived from sandstone / shale / granite parent material
- Rolling lowland
- Highly suitable for broadleaves and conifers

Grey brown podzolic



Has a soil horizon of clay accumulation

- Well drained, deep fertile soil
- Parent material mainly limestone
- Desirable soil physical properties
- Highly suitable to broadleaf and conifer

Podzol




Horizon of leached minerals

- **Well drained acid mineral soil**
- **Subject to intense leaching of minerals**
- **Have a distinct leached soil horizon**
- **Located mainly on hill-land areas**
- **Mainly suitable to conifer species**

Peaty podzol

- Very acid soil, located on hill and mountain areas
- Ironpan restricts drainage and root growth
- Generally suitable to conifer species when pan is broken
- Unsuitable to broadleaf species



Iron pan
(intense accumulation
of leached iron)



Gley



- Poorly drained mineral soil
- Poor soil physical properties
- Very suitable to spruce species
- Limited suitability to some broadleaf species



Oxidation/reduction cycle of minerals gives the mottled effect typical of Gleys

Peaty gley



- Poorly drained soil with peaty topsoil
- Poor soil physical properties
- Suitable mainly to spruce species
- Unsuitable to broadleaf species

Rendzina



Shallow topsoil directly above parent material

- Well drained, shallow (<50cm), mineral soils
- Very dark soils with high lime content
- Derived from limestone bedrock or limestone sands and gravels
- Often limited in their use range by shallow depth and high pH

Lithosol



- Skeletal stony mineral soils (often organic in nature)
- Normally overlying solid or shattered bedrock
- Located mainly in areas of high elevation
- Bare rock outcrops at frequent intervals
- Conifer species may be suitable in places
- Often located in important aesthetic and amenity areas

Peat



Cutover
Basin peat

Basin peat

Cutover
Blanket peat



- Characterised by a high level of organic matter
- Very high moisture content
- Two main types: Basin and Blanket
- Cutover and drained Basin peat suitable to conifer and some broadleaf species