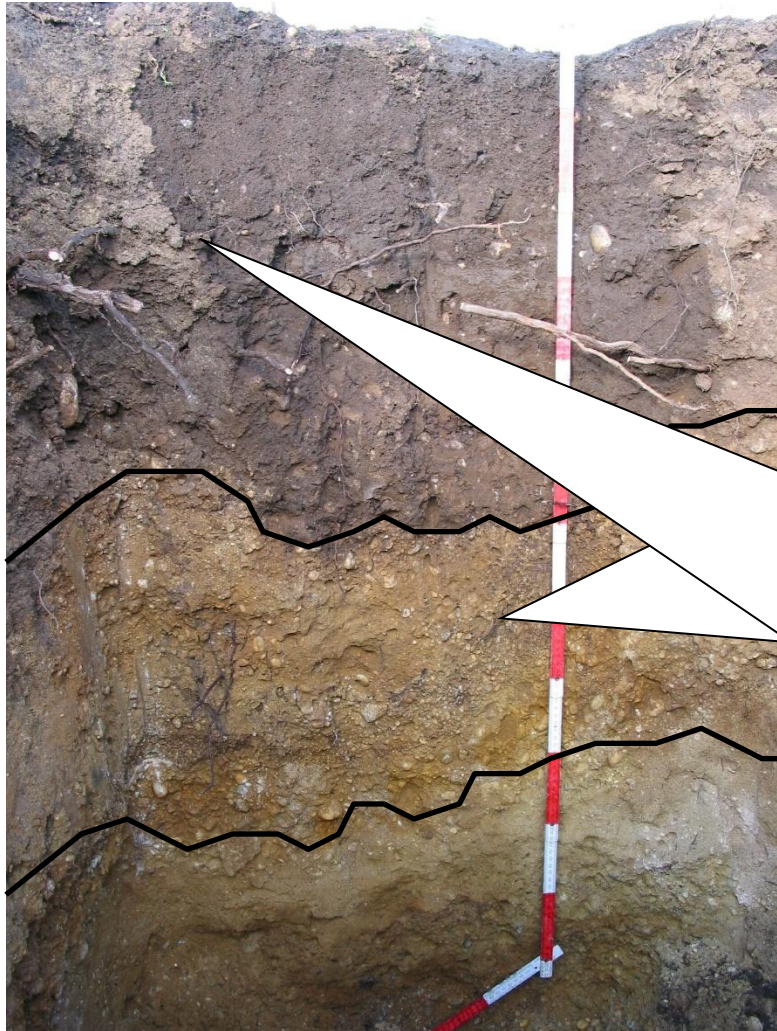




Soil properties and field methods

What most be the result by open the field ?



Soil horizons
Soil skeleton

Roots



Nutrient rich sites



Abundant vegetation, high biological activity



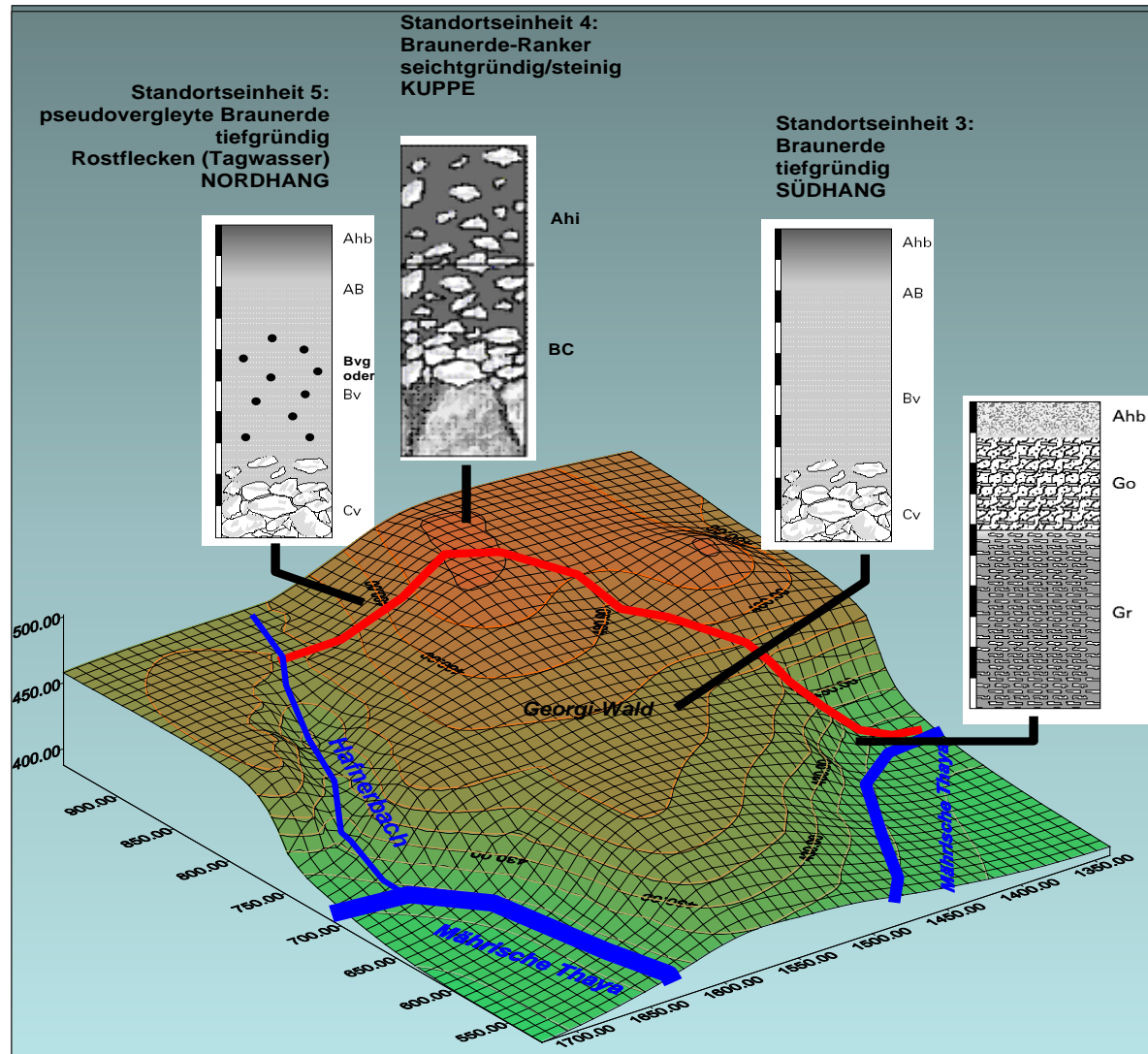
Nutrient poor sites



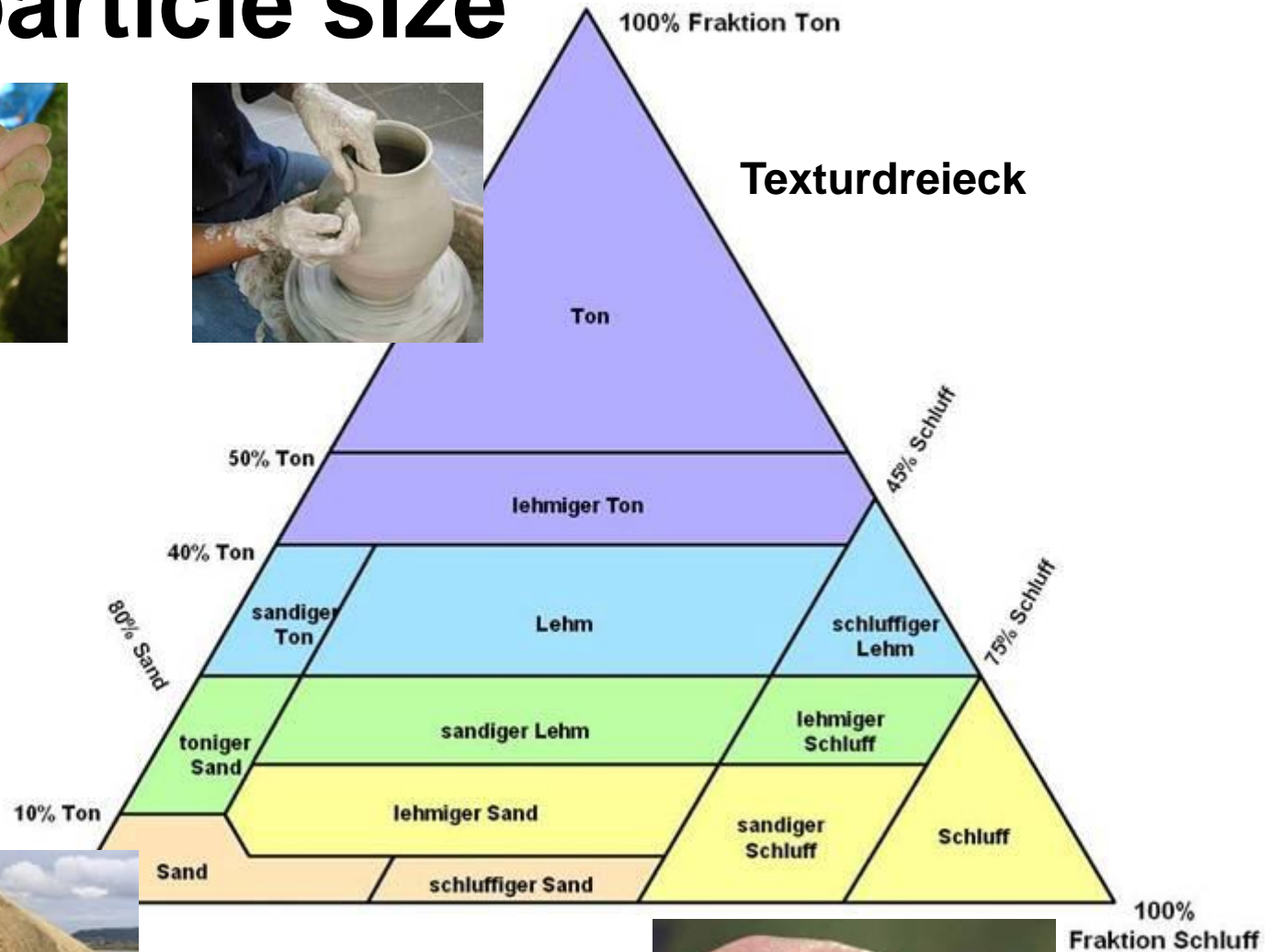
Rare vegetation, slow nutrient turnover, raw humus



Topography



Soil particle size



Soil colour

- Influenced by
- Geology
 - Humus content

Inidates

- Humus
- Soil water regime
- Soil aeration
- Compaction
- Soil forming processes



Example: colour indicating deoxidisation



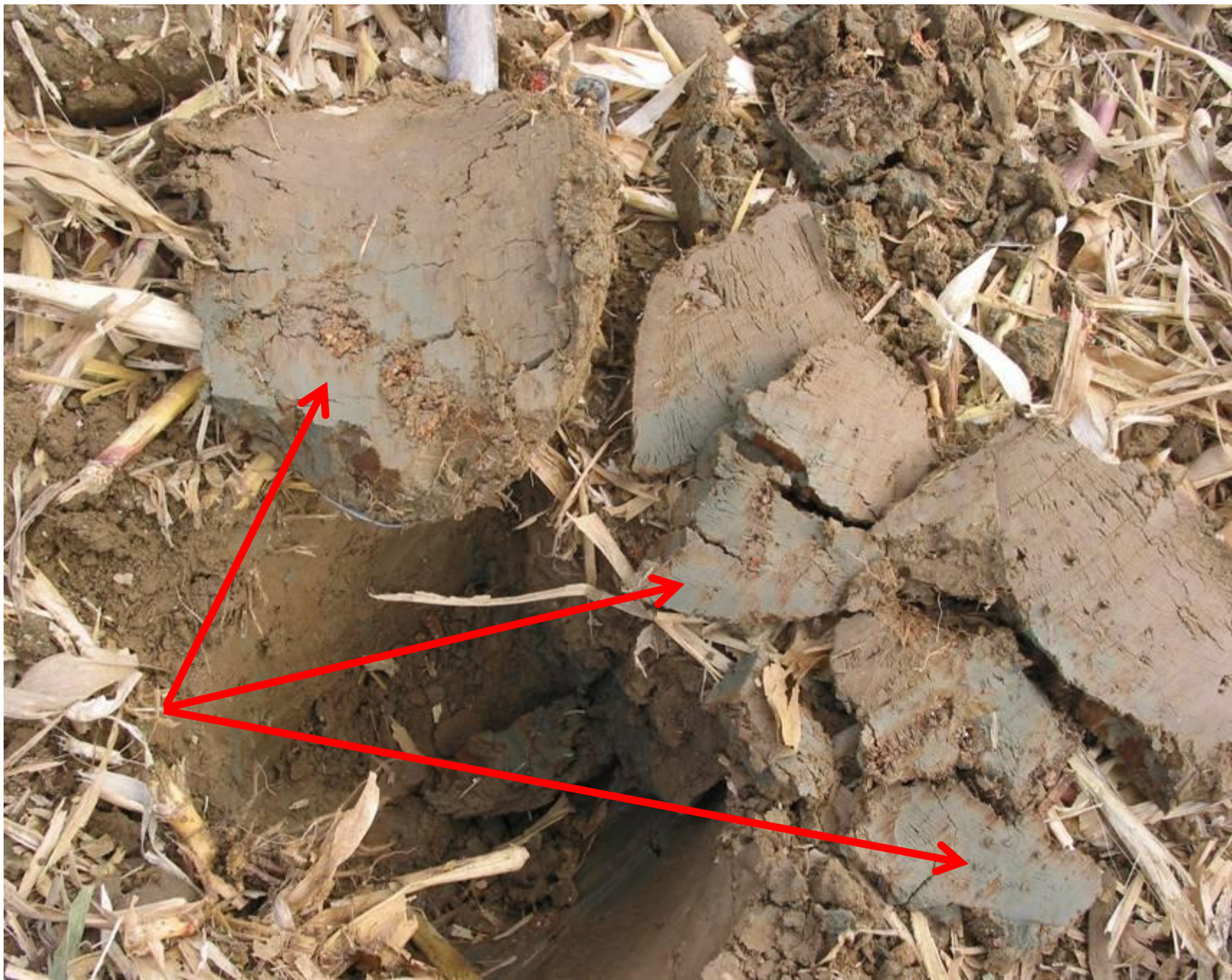
Soil structure

crumbly structure (aggregates)



bulky





Carbonate content

Hydrochloric acid (diluted)





Implications for forest management

Choice of tree species



Heavy clayish soil; waterlogged , shallow rooting

Timber harvest



(Lüscher et al., 2010)

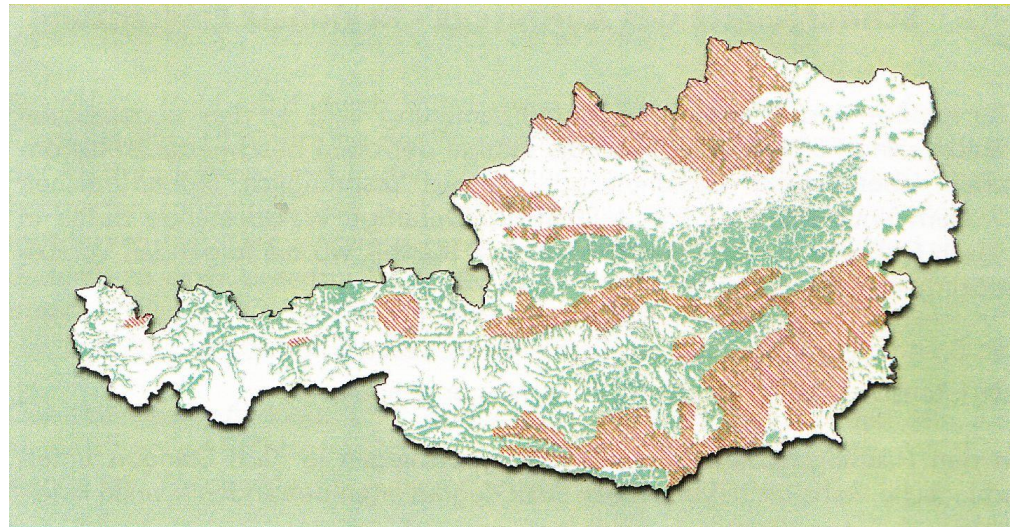
Soils remember...



Foto: Marco Walser, WSL

Fertilisation – amelioration local hot spots in Austria

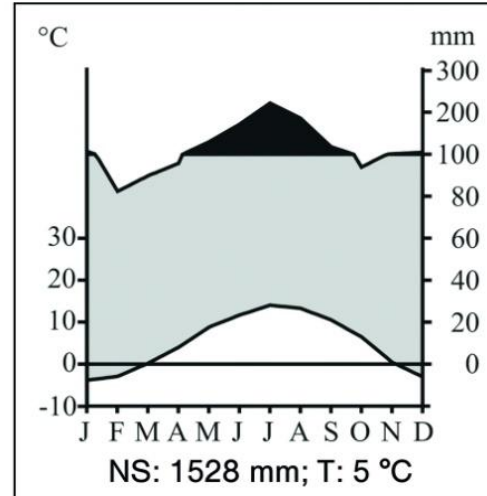
- Acid spruce / pine forests on broadleaf tree stands



Clear cut / soil erosion



Fichten-Bestand mit Kiefer



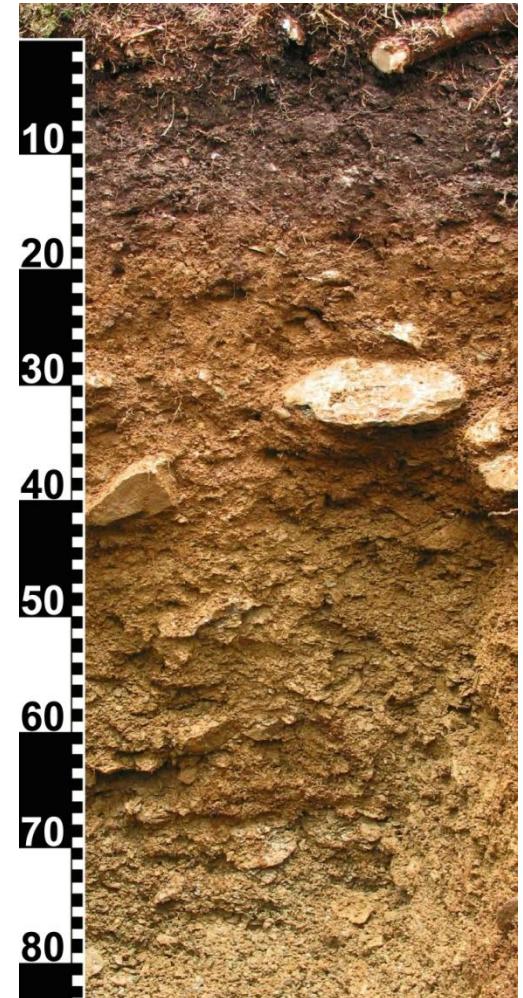
N 47,525 / E 11,818



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Biomass removal

- Problematic:
 - Soils: soil types, geology,
 - Topography: dome
 - Others: climate, historical land use

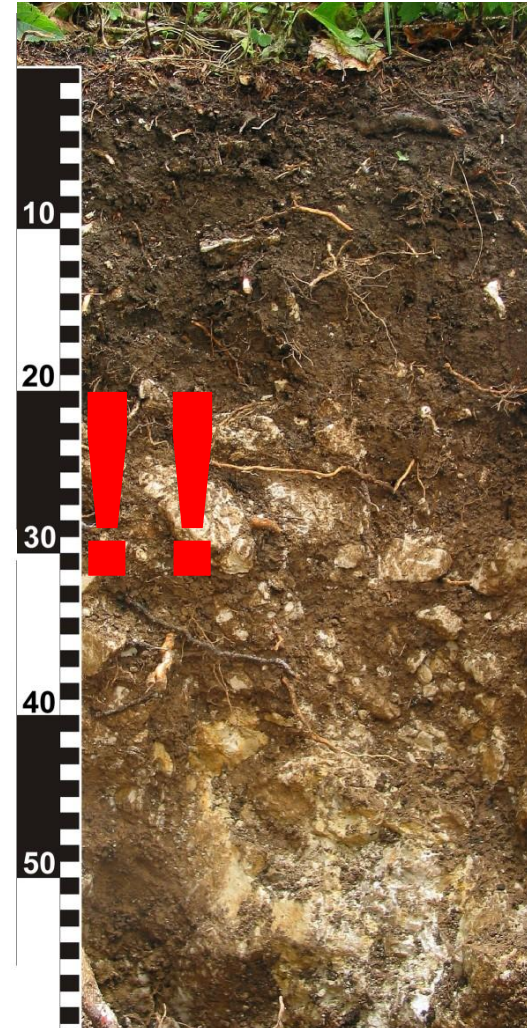


Clear cut?



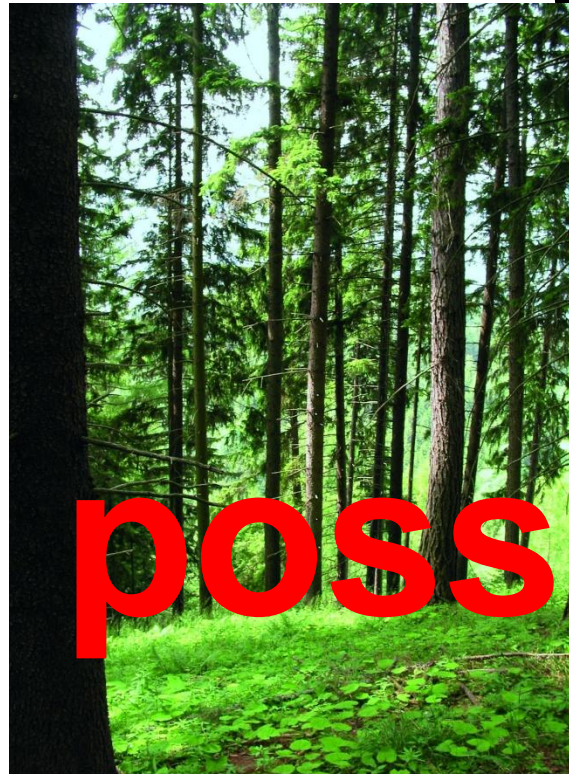
Fichten-Bestand mit Tanne und Esche

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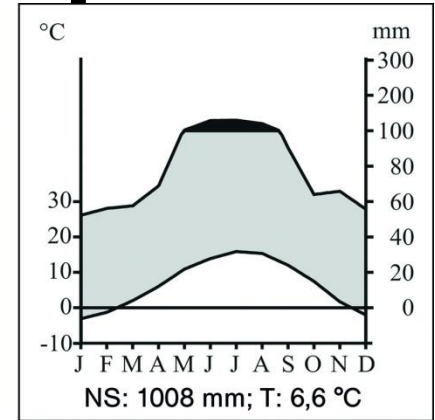


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High amount of Norway spruce?



Fichten-Lärchen-Bestand

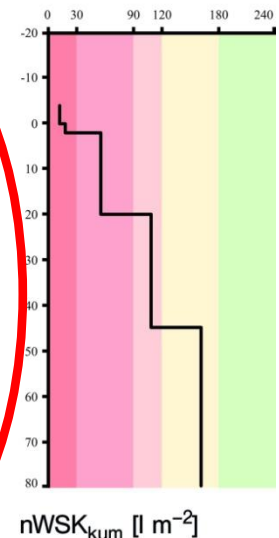
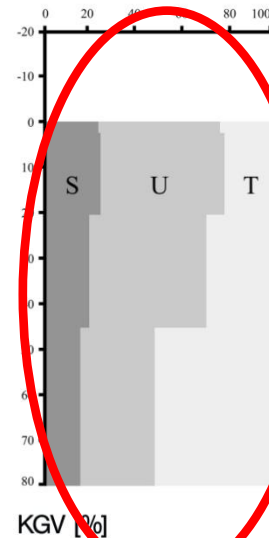
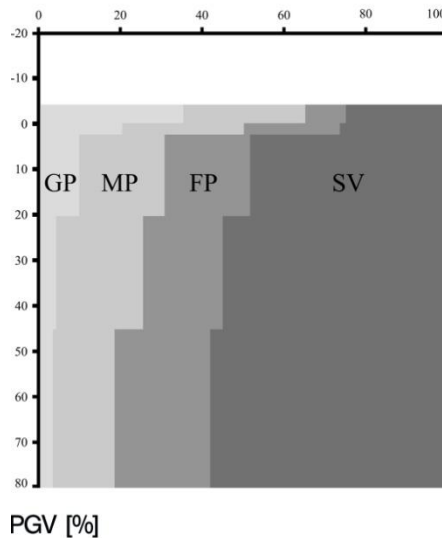
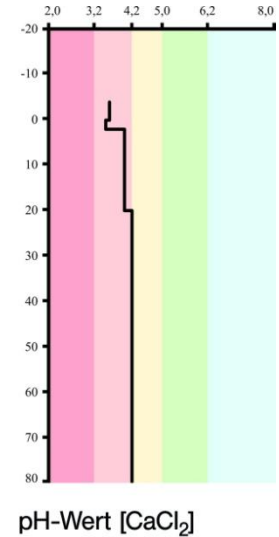
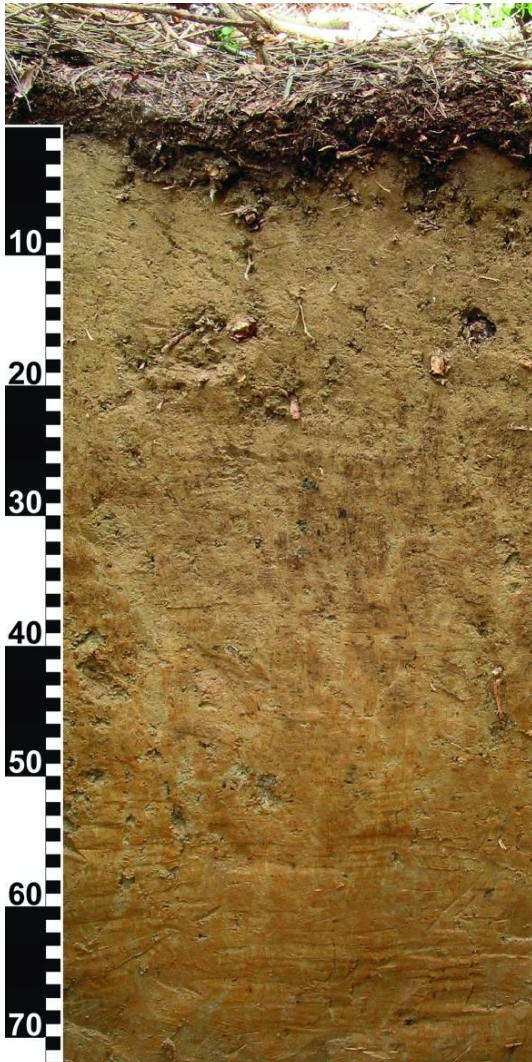


N 47,371 / E 15,166

Yes, possible

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High amount of Norway spruce?





**Thank you for your
attention**