

Soil of the Year 2013 – Plaggic Anthrosol Presentation: Global Soil Day 2012



Figure 1: Brown Plaggensch (Foto Mueller)



Figure 2: Grey Plaggensch (Foto Giani)

Proposal and material preparation:

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Characteristics

How is the feature of Plaggic Anthrosols?

Plaggic Anthrosols are characterized by a humic layer of more than 40 cm, sometimes exceeding 150 cm. This plaggic layer has developed in the course of periodic application of organo-mineral manure by man during centuries. These applications caused raised structures in the landscape with typical field slopes, partly visible today.

The colour of the plaggic horizon is caused by the origin of organo-mineral manure used. Sods from heathlands have generated grey Plaggic Anthrosols and sods from meadows brown Plaggic Anthrosols. As a matter of fact, the plaggic horizons often contain rests of charcoal, bricks or other remains of domestic use.

How do Plaggic Anthrosols develop?

The formation of Plaggic Anthrosols is closely connected with the Plaggen Management which is assumed to have started nearly 1,000 years ago. The introduction of the Plaggen Management was in line with the beginning of continuous rye cultivation, called eternal rye cultivation in Germany. It was an important agricultural improvement comparable with the introduction of mineral fertilizers.

During Plaggen Management, sods were cut with special tools in common lands. Sods are composed of grass herb shrub material with its roots and soil components sticking on them. They were taken to the stables, enriched with dung, mostly composted afterwards and finally spread on the fields as valuable organo-mineral manure. This led to a comparably high soil fertility still which is still proven in increased assessment numbers for agricultural evaluation. However, the common lands exhausted in humus and nutrients and became susceptible to erosion which formed shifting dunes.

How are Plaggic Anthrosols distributed?

The main areas of grey Plaggic Anthrosols are the nutrient-poor Saalian areas of Northwest Germany. The brown Plaggic Anthrosols occur predominantly further to the south, in the area of Osnabrück and the south-eastern Münsterland. Isolated occurrences are documented in the north-frisian region on the islands of Amrum, Föhr und Sylt.

How are Plaggic Anthrosols used?

Formerly, rye cultivation was in the focus of agricultural production. At present, all kinds of cereals, root crops and potatoes are produced which are being displaced by corn to an increasing extent. Additionally, Plaggic Anthrosols are preferentially used for specialized cultivation, e.g. tree nurseries.

Which functions do Plaggic Anthrosols offer for man and environment?

Plaggic Anthrosols are important archives of landscape and cultural history. They are documents of former land use practices, visible in the plaggic soil layer and thereby evident in the landscape today. In addition, they are archives of archaeological findings to be discovered within and below the plaggic layer. In some places, the plaggen layers protect very old archaeological witnesses.

Which are the threats to Plaggic Anthrosols?

Because of their distribution close to settlements, many Plaggic Anthrosols are threatened by built-up areas. Large areas are already covered with buildings and have been sealed. Tree nurseries are also a matter of concern, because the trees are excavated with the surrounding soil material, which causes considerable mass losses accompanied by losses of ecosystem functions.

Further information and material (posters, flyers, CD's)

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<p>Breaklines in landscape with Plaggic Anthrosols</p>	
	
<p>Typical arable land with winter rye</p>	<p>Plaggic Anthrosol degradation by settlement</p>