

SUMMARY

This work studies the biodegradation process of soil organic substances according to the biological activity, humification percentage (Duchaufour), humification grade (Kozakiewicz) and humus quality in estimating stability coefficient (k) of soil organic substances (Hargitai).

A substantial difference in the biodegradation of organic matter exists between the natural soils and the lignites and peat bog soils.

These soils present an analogy between the biological activity and the humification percentage. The relationship between the humification grade (Kozakiewicz) and the humus quality (Hargitai) is also surprising. Between both peats and lignites no such relationship is existent. Lignites reach their maximum humification but have a lower stability coefficient, such as expected for inert humus.

A parallelism exists between the quality of humification (K value) and the micromorphological study in the first four grades of the humification scale: Lumbricidae droppings Brown calcareous soil Rendzina-like soil Meridional Braunerde.

It is difficult to establish a humification scale accurately due to its complex formation.

Therefore to interpret and to evaluate the complex problem of the biodegradation of organic matter it is necessary to establish the humus stability coefficient as well as making the micromorphological study in addition to the humification grade.