DEFINITIONS OF FOREST HUMUS TYPES

by

HERBERT A. LUNT
Connecticut Agricultural Experiment Station

For some time the writer has sensed a need for classification and standardization of terms used in forest soil descriptions. After canvassing the other members of the Forest Soils Committee, he prepared a statement of the American position in regard to the use of certain of these terms and presented it through Dr. M. F. Morgan for consideration by Subcommission Vb of the International Society meeting at Oxford in August of 1935. As a result of their deliberation, C. H. Bornebusch and S. O. Heibert presented a list of definitions, which was approved with certain reservations by the Subcommission. The definitions and added reservations are as follows:

I. Two main types only - "mull" and "mor" - are to be recognized.

II. Mull: Mixture of organic matter and mineral soil, crumbly granular or compact structure, transition to lower layers not sharp.

a) Coarse mull: coarse grain structure, organic matter very conspicuously mixed with mineral soil (usually 5-20 percent organic content, exceptional cases even higher).

b) Fine mull: fine grain structure. Organic content high (usually over 50 percent).

c) Firm mull: dense compact structure, usually low content of organic matter, often less than 5 percent.

III. Mor: Organic matter practically unmixed with mineral soil, usually more or less matted or compacted. Transition to mineral soil always distinct. Often composed of two layers named F-layer, i.e., fermentation layer resting on H-layer, i.e., humified layer.

The F-layer consists of more or less decomposed litter still recognizable and rather loose structure. Lower part somewhat compacted. In dry conditions very easily broken into fine powder when pressed by hand.

b) Greasy mor: F-layer usually relatively little developed, often more or less fibrous, H-layer thick, compact, a distinct greasy feel when wet, hard and brittle when dry.

c) Fibrous mor: F-layer well developed. Both F and H-layer fibrous but not compact. Many plant remnants visible also in H-layer.

Reservations:

1. That the types mentioned generally concern the well-drained soils, while it may be desirable to use the term "peat" and other sub-divisions for forest humus layers which are strongly influenced by ground water.

2. That the sub-types mentioned may be regarded as examples of sub-types only.

3. On the suggestion of the American Soil Survey Association the Sub-committee proposed to use the term "forest floor" to cover the accumulation of organic matter on the soil surface.

The writer has attempted in a limited way to use these terms in the field and has been moderately successful. Some difficulty was experienced with the sub-type, fine mull. Several members of the Forest Soils Committee are inclined to think that the stated organic content (over 50 percent) is too high, and possibly 20 percent would be a more desirable figure.

Greasy mor and fibrous mor