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DIAGNOSTICS OF THE LITHOGENIC HETEROGENEITY OF BROWNISH-PODZOLIC SOILS BASED ON THE SOIL TEXTURE ANALYSIS

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Modern literature concerning the issue of lithological divergence of pedogenesis has been analyzed. The conditions of formation of the lithological discontinuity in Precarpathian brownish-podzolic soils (Retisols according to WRB) on the basis of particle size analysis have been shown. It was established that the transition (conversion) from the national (according to Kachinskiy) to international (USDA/FAO) classification of soil texture did not fundamentally change the class (no more than one class) and is possible to be used with the algorithm of Shein–Karpachevskiy. Transition without conversion, automatically becomes impossible. In 27 out of 31 studied profiles, a lithological discontinuity has been revealed according to index of Clay-Free Basis (CFB: relative content of the sand and silt fractions excluding the clay). The possibility of using the index of CFB without data conversion has been shown, under the condition of the summation of all sand and silt fractions and previous distribution of losses from acid processing on all the fractions in carbonate soils or adding the losses to clay fraction in the soils that do not contain carbonates. It has been revealed that the presence of vertically diversified substrates in brownish-podzolic soils worsens soil hydraulic conductivity in 3-4 times and appreciably changes the soil-hydrological constants, especially in illuvial part of soil profile.

Keywords: *lithological discontinuity, particle size analysis, index of Clay-Free Basis (CFB), the brownish-podzolic soils, Retisols, Precarpathians.*

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ДИАГНОСТИКА ЛИТОГЕННОЙ НЕОДНОРОДНОСТИ БУРОВАТО-ПОДЗОЛИСТЫХ ПОЧВ НА ОСНОВЕ ГРАНУЛОМЕТРИЧЕСКОГО СОСТАВА

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Проанализирована современная литература касательно вопроса литологической дивергенции педогенеза. Показаны условия формирования литологических разрывов в буровато-подзолистых (Retisols за WRB) почвах Предкарпатья на основе гранулометрического анализа. Установлено, что переход (конверсия) от национальной (согласно Качинского) к международной (USDA / FAO) классификации гранулометрического состава почв кардинально не изменяет класс (не более чем на один класс), и возможен с применением алгоритма Шеина-Карпачевского. Переход без пересчета, автоматически, невозможен. В 27 из 31 исследованных профилей обнаружен литологический разрыв по показателю CFB (относительное содержание фракций песка и пыли без учета ила). Показана возможность использования показателя CFB без конверсии данных, при условии суммирования всех фракций песка и всех фракций пыли и предварительного разнесения потерь от обработки кислотой по всем фракциям в карбонатных почвах или добавления потерь в илистой фракции, в почвах, не содержащих карбонаты. Обнаружено, что присутствие в профиле буровато-подзолистых почв вертикально диверсифицированных субстратов ухудшает гидравлическую проводимость почвы в 3-4 раза и существенно изменяет почвенно-гидрологические константы, особенно, в иллювиальной части профиля.

Ключевые слова: *литологический разрыв, гранулометрический анализ, показатель Clay-Free Basis (CFB), буровато-подзолистые почвы, Retisols, Предкарпатье*