

Appendix III – Explanation of Soil Terms

Bleached – Describes an horizon which has become pale in colour owing to leaching.

Buchshot – More or less rounded, hard, ferruginous concretions varying from shot to marble size.

Catena – As used here; a sequence of different soil types derived from similar parent material, their differences arising from drainage effects due to variation in slope.

Concretions – Local concentrations of certain chemical compounds deposited in the form of hard, more or less rounded nodules of various sizes.

Consistence – This describes the behaviour of the soil when manipulated. It indicates the resistance of the soil to deformation, and is a measure of the degree of cohesion of a soil or of a soil aggregate. It is affected markedly by the moisture state of the soil. The following consistence terms are used in this report: friable, plastic, hard, brittle, compact, sticky.

Ferruginous Concretions – Concretions, mainly of iron oxide; commonly described in the A₂ and B₁ horizons, but sometimes occur on the surface and in other parts of the profile.

Gilgai – An uneven surface manifestation of puffs and depressions often referred to as crabholes.

Gypsum – Hydrated calcium sulphate.

Illuvial – Material deposited in the soil profile as the result of translocation during soil weathering processes. It is customary to refer to the A horizons as eluvial horizons and the B horizons as illuvial horizons.

Morphology – The physical constitution of the various horizons and their arrangement in the soil profile.

Munsell colour – This is the soil colour determined by matching against the Munsell colour chart and expressed in its notation of hue, value and chroma. The notations given in this report are for moist soils. These, in general, are about two intervals lower in value than for the soils in their dry states. The written descriptions of the surface soils refer to the dry soils since these convey better than normal colour of the soil.

Parna – A fine-textured calcareous deposit of aeolian origin. It is postulated to be derived from older soils and transported mostly as small clay aggregates.

Ped – An individual natural soil aggregate.

Soil association – As used here a group of soil types regularly associated geographically in a defined pattern.

Sodic soil – A soil that contains sufficient exchangeable sodium to interfere with the growth of most crop plants.

Soil horizon - A layer of soil with similar characteristics throughout. The horizon may be distinguished by differences in one or more of the following characteristics: colour, texture, structure, consistence, organic matter content and the presence of visual products of weathering such as calcium carbonate, gypsum and iron oxide concretions.

Soil Profile - This is the vertical section of a soil exposing the sequence of horizons from the surface to an arbitrary depth, in this case, to at least 4 ft. The principal horizons, some of which may not be present in the soils described, are:

At The surface layer in which organic matter has accumulated and is partly depleted of clay and soluble material. It represents the zone of maximum biological activity and roughly corresponds to the layer affected by tillage.

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| A ₁ | A lighter coloured, subsurface layer, poor in organic matter. This is the zone of maximum leaching. |
| B ₁ | A subsoil layer representing the zone of accumulation of some materials, chiefly clay, from the A horizon. |
| B ₂ | A zone of accumulation of other materials, usually calcium carbonate. |
| C. | A layer representing unchanged material from which the above horizons have formed. |

Soil phase - A modification of a soil type in which one feature is accentuated without altering the main profile form.

Soil series - A group of soils having horizons similar in distinguishing characteristics and arrangement in the soil profile, except for the texture of the surface soil, and formed from the same parent material. The series name first is taken from the locality where it was first described. A series may consist of one, two, or more soil types.

Soil type – A group of soils with the same profile characteristics, including the texture of the surface soil. The unit of soil mapping used over most of the survey.

Solonetzic - Describes a soil having resemblances in the structure of its B₁ horizon to the columnar structure of a solonetz.

Structure – Describes the way in which the primary soil particles are arranged into soil aggregates (peds). The descriptive terms used here are: blocky, subangular blocky, prismatic, columnar, platy. The size or grade of the aggregates may be fine, medium or coarse, while the structure may be weakly, moderately or strongly developed.

Texture – This is a soil property determined by the size distribution of the primary mineral particles. It is described in terms of texture classes; some examples are sand, sandy loam, clay loam, sandy clay, light clay, heavy clay. The *field texture* of a soil is the texture class rating determined by kneading the wetted soil in the hand. Its assessment depends primarily upon the cohesiveness, plasticity and particle size distribution, and is influenced by the presence of organic matter, calcium carbonate and gypsum.

Toposequence – As used here, an orderly sequence of soil types passing from the highest to the lowest part of a particular landscape unit. The differences in soil types may be due to either parent material, or drainage or both. Where the parent material is uniform, “catena” is synonymous.

Variant – A minor modification of a soil type which is usually indicated by a suitable inscription on the soil map.