# Malaysian Soil Series classified by USDA Soil Orders, Sub-orders and Great Groups

| Order | Sub-order | Great group | Soil Series | |
|---|---|---|---|---|
| Histosols | Fibrists | Haplofibrists | Anderson, Changkat Lobak Igan, Mukah, Salleh | Peat soils require an intensive water management system. Palms should be planted using the hole-in-hole technique. Cu and Zn usually required. Lime required to increase N release from organic matter. |
| | Hemists | Haplohemists | Bakri, Bayas, Pak Bong | |
| | | Sulfihemists | Arang, Nipis | |
| | Saprists | Haplosaprists | Linggi, Telok Buloh | |
| | | Sulfisaprists | Penor | |
| Entisols | Aquents | Endoaquents | Binjai, Guan | Aquents must be drained before planting to oil palm. After drainage Aquents become Inceptisols. |
| | | Fluvaquents | Guan, Kalibong | |
| | | Sulfaquents | Bergosong, Kranji, Linau | |
| | Fluvents | Udifluvents | Tenghilan | Too localized (riverbanks) for oil palm cultivation. |
| | Orthents | Udorthents | Paku, Pengalan, Ramuan, Sebat, Seduau, Tamanong, Telemong | Too shallow for oil palm. |
| | Psamments | Quartzipsamments | Jambu | Too sandy for oil palm. |
| | | Udipsamments | Baging, Rompin, Sungei Buloh, Usukan | |
| Inceptisols | Udepts | Distrudepts | Benuou, Kelawat, Lintang, Luasong, Nangka, Nibong, Penambang, Samadoh | Well drained soils with high yield potential (>35 t FFB/ ha). |
| | | Eutrudepts | Bombalai, Bulanat | |
| | Aquepts | Suffaquepts | Guan, Parit Botak, Sedu | Water management system required to prevent the reduction of soil pH due to the oxidation of oxidation of jarosite. Also known as acid sulphate soils |
| | | Sulfic Endoaquepts | Bijat, Carey, Jawa, Metah, Mundai, Telok, Tongkang | |
| | | Typic Endoaquepts | Bangawat, Bernam, Briah, Kakai, Kluang, Koyah, Manik, Perepat, Sabrang, Selangor | Clay soils, often derived from Entisols. Eutrudepts are more fertile than Distrudepts. High soil fertility status and yield potential (>35 t FFB/ha). Water management required. |
| Mollisols | Rendoll | Haprendolls | Loc Sambuang | Shallow mollic horizon (containing a large concentration of organic matter) overlying limestone. High soil pH. |
| Oxisols | Udox | Acrudox | Jerangau, Kampong Kolam, Kuantan, Prang, Segamat, Senai, Sungei Mas, Table | Structure better than Ultisols due to presence of Fe and Al oxides that impart reddish colours to the soil profile. Well drained but prone to drought due to high porosity. Lower fertility status than Ultisols. Eutrox soils are more fertile and less acid than Acrudox soils. Kandiudox soils are susceptible to compaction and are difficult to manage when the surface horizon has been eroded and the kandic clay layer exposed. Empty fruit bunch mulching improves structure and nutrient holding capacity. Large response to K and P fertilizers. Install soil conservation measures, especially on steep slopes. |
| | | Eutrudox | Sagu, Sungei Mas | |
| | | Hapludox | Apas, Gading, Jarangan, Katong, Malacca, Munchong, Nobusu, Patang, Pinianakan, Tandak, Tarat | |
| | | Kandiudox | Batang Merbau, Bungor, Chat, Harimau, Lanchang, Rengam, Tai Tak, Ulu Dong | |
| Spodosols | Humod | Haplohumods | Baiayo, Buso, Karamatoi, Miri, Rhu Tapai, Rudua, Silantek | Developed from beach ridges, sandy riverine deposits and sandstones. Nutrients (particularly K and Mg) are likely to be lost due to leaching due to sandy soil texture. Poor water availability under drought conditions. Increase the number of split fertilizer |
| | Orthod | Haplorthods | Sibuga, Silimpopon, Stoh | |
| Ultisols | Aquults | Endoaquults | Inanam, Jabil | Ultisols are easily damaged due to compaction and erosion. Mechanization should therefore be implemented with great care. Use low flotation tyres on vehicles used in the field. Higher fertility status than Oxisols. Empty fruit bunch mulching improves structure and nutrient holding capacity. Large response to K and P fertilizers. Install soil conservation measures (platforms, terraces), especially on steep slopes. |
| | | Kandiaquults | Jabil, Lunas, Sogomana | |
| | | Kanhaplaquudults | Cherang Hangus | |
| | | Paleaquults | Inaanam/poor, Jelutong | |
| | Udults | Hapludults | Asahan, Batu Anam, Dagat, Durian, Kumansi, Pohoi | |
| | | Kandiudults | Batang, Bungor, Gajah Mati, Harimau, Holyrood, Kasau, Lambak, Lanchang, Langkawai, Lelau, Merbau, Rengam, Serdang, Sitiawan, Tai Tak, Tavy, Tebok, Tungau, Ulu Dong | |
| | | Kanhapludults | Apek, Gong Chenak, Kawang, Kening, Kuala Brang, Marang, Nami | |
| | | Paleudults | Abok, Bedup, Berkenu, Inanam/imp, Kapilit, Kinabutan, Kulai, Lumisir, Merit, Musang, Nyalau, Stom Tanjong Lipat, Tok Yong, Yong Peng | |
| | | Plinthudults | Batang, Chuping, Sipit | |
| | | Rhodudults | Jakar, Sarekei | |
| Alfisols | Aqualfs | Endoaqualf | Batu Hitam, Buran | Higher soil fertility status than Ultisols. Easily damaged by compaction. Mechanization should therefore be implemented with great care. Use low flotation tyres on vehicles used in the field. |
| | Udalfs | Hapludalfs | Kabuloh, Karabungan | |
| | | Paleudalfs | Darau, Kobovan | |
| Andisols | Melanudands | Typic melanudands | | High P fixation capacity. Excellent physical properties (water holding capacity, oil palm root development). Very high yield potential (>35 t/ha). |

Wetlands | Coastal clay | Inland soils

Gelisols (found only in the arctic), Aridisols (found only in arid climates), and Vertisols (only cultivated with rice in Malaysia) have not been included.