

| SOIL TEXTURE<br>(% DRY WEIGHT)   |        |        | SOIL SOLUTION<br>(average values, inches/foot) |                 | AIR                         |
|--|--------|--------|--|-----------------|-----------------------------|
| % SAND   | % SILT | % CLAY | UNAVAILABLE WATER                              | AVAILABLE WATER | Pore Space<br>(inches/foot) |
| 22   | 18     | 60     | 3.0  | 2.0             | 1.4                         |
| CLAY 3.4 MILLION lb/ac-ft Db = 1.25 g/cm <sup>3</sup>                  |        |        |  |                 |                             |
| 8  | 45     | 47     | 2.8  | 2.1             | 1.3                         |
| SILTY CLAY 3.53 MILLION lb/ac-ft Db = 1.3 g/cm <sup>3</sup>            |        |        |  |                 |                             |
| 51   | 7      | 42     | 2.6  | 2.2             | 1.2                         |
| SANDY CLAY 3.61 MILLION lb/ac-ft Db = 1.33 g/cm <sup>3</sup>           |        |        |  |                 |                             |
| 32   | 33     | 35     | 2.4  | 2.3             | 1.2                         |
| CLAY LOAM 3.67 MILLION lb/ac-ft Db = 1.35 g/cm <sup>3</sup>            |        |        |  |                 |                             |
| 10   | 56     | 34     | 2.1  | 2.5             | 1.3                         |
| SILTY CLAY LOAM 3.7 MILLION lb/ac-ft Db = 1.36 g/cm <sup>3</sup>       |        |        |  |                 |                             |
| 60   | 12     | 28     | 1.8  | 2.7             | 1.3                         |
| SANDY CLAY LOAM 3.73 MILLION lb/ac-ft Db = 1.37 g/cm <sup>3</sup>      |        |        |  |                 |                             |
| 8  | 88     | 4      | 1.7  | 2.5             | 1.6                         |
| SILT 3.75 MILLION lb/ac-ft Db = 1.38 g/cm <sup>3</sup>                 |        |        |  |                 |                             |
| 21   | 67     | 12     | 1.6  | 2.2             | 1.9                         |
| SILT LOAM 3.78 MILLION lb/ac-ft Db = 1.39 g/cm <sup>3</sup>            |        |        |  |                 |                             |
| 43   | 38     | 19     | 1.4  | 2.2             | 2.1                         |
| LOAM 3.8 MILLION lb/ac-ft Db = 1.4 g/cm <sup>3</sup>                   |        |        |  |                 |                             |
| 64   | 25     | 11     | 1.2  | 2.1             | 2.2                         |
| VERY FINE SANDY LOAM 3.94 MILLION lb/ac-ft Db = 1.45 g/cm <sup>3</sup> |        |        |  |                 |                             |
| 64   | 25     | 11     | 1.0  | 2.1             | 2.2                         |
| FINE SANDY LOAM 4.1 MILLION lb/ac-ft Db = 1.5 g/cm <sup>3</sup>        |        |        |  |                 |                             |
| 64   | 25     | 11     | 0.8  | 2.1             | 2.1                         |
| SANDY LOAM 4.21 MILLION lb/ac-ft Db = 1.55 g/cm <sup>3</sup>           |        |        |  |                 |                             |
| 82   | 13     | 5      | .6   | 1.2             | 3.0                         |
| LOAMY SAND 4.35 MILLION lb/ac-ft Db = 1.6 g/cm <sup>3</sup>            |        |        |  |                 |                             |
| 96   | 2      | 2      | .5   | 0.8             | 3.3                         |
| SAND 4.48 MILLION lb/ac-ft Db = 1.65 g/cm <sup>3</sup>                 |        |        |  |                 |                             |

**SOLIDS:** the actual percentage of SAND, SILT, and CLAY varies (+ or - a few %) within any soil type, as does the actual PARTICLE size diameter (sand 2.0-.05 mm; silt .05-.002 mm; clay < .002 mm); these soils have organic matter (HUMUS) levels of .5-1.5% (cultural practices, soil type, fertility and other variables determine this percentage). D<sub>b</sub> = Bulk Density of soil (g/cm<sup>3</sup>).

**SOIL SOLUTION:** the available and unavailable water amounts shown are based on the soil's water-holding capacity (i.e., field capacity, which is variable) for uniform soils. NOTE: stratified soils generally contain higher available water, e.g., 20-40% more. Approximately 30-50% of available water is depleted at time of irrigation. Irrigations are applied when soils are between 35-80 centibars of tension (matric).

**Air:** this represents the macro pores (space between aggregates) which are essential for aeration, infiltration and drainage.