Vertical Mulching Boosts Root Growth

By WAYNE C. MORGAN

WHERE do roots grow? Under what environmental conditions are they active? The answers to these questions are of prime importance to persons having responsibility for establishing and maintaining landscape plants. Health and beauty of most plants are usually in proportion to the extent and vigor of the root system.

Roots do not grow into soil. They grow in the pore spaces surrounding soil particles. If there are only small pore spaces due to compaction and breakdown of soil structure, the physical barrier of dense soil will restrict root elongation.

Roots do not grow where it is too dry. Neither do they grow where it is too wet. They grow only where there is a favorable soil-moisture-air relationship. Water penetrates very slowly into and through clay, silt, and compacted soils. With restricted water movement into the deeper rooting zone of such soils, lack of sufficient moisture will not allow root growth. Where water has infiltrated, root activity will be limited because of excess moisture and insufficient oxygen in the dense soil.

Unwise irrigation practices can create conditions unfavorable for plant health. Water applied too fast runs off rather than entering the soil. Shallow rooting is usually the result. Applying more water than needed not only is wasteful, but will severely limit roots from aiding top growth where poor soil conditions exist.

Backfilled Holes Help Restore Vigor

When faced with poor growing conditions, a method of drilling holes around trees or shrubs and replacing soil with an improved mix will probably help significantly to restore vigor and beauty to plants. Known as “vertical mulching,” this method is similar to “deep-root feeding” and “perforated feeding,” except that in the latter holes are not backfilled with an improved soil mix.

In vertical mulching, holes from 2 to 3 in. in diameter are drilled into soil beneath the plant’s drip line, approximately one per square foot. These can
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When the great value of landscape trees and shrubs is considered, it is apparent that they deserve the low-cost help vertical mulching can provide when poor soil conditions limit development.

USDA Tests Show Greater Washoff of 2,4-D Ester

Recent Georgia tests conducted by scientists of the U. S. Department of Agriculture’s Agricultural Research Service show that 2,4-D in the ester form is more easily washed from soil than amine formulations. Using simulated rainfall, runoff from test plots was trapped and tested for herbicide content. Results showed that up to 27% of 2,4-D ester was washed off, but only 3% of the amine, indicating a close connection between herbicide form and loss from rainfall.

Lower amine loss was attributed to its much greater water solubility, which enables it to penetrate soil more readily than ester forms. Tests were conducted at experimental plots in Watkinsville, Ga., with cooperation of the Georgia Agricultural Experiment Station.