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ABSTRACTS

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Soil is probably the most important environmental factor controlling tree health. The physical and chemical properties of a soil are very important to all of the plants growing in it. To prevent physical and chemical soil stress, one needs to know what causes these problems and take the necessary steps to guard against them. Some of the more common ways stress occurs are discussed. It is also important to remember that man can have tremendous impact on the condition of a soil. His actions could alter or disturb it, bringing about changes in its physical properties, its chemical properties, or both. For example, most urban and suburban soils, especially along streets, have been disturbed and are unsuitable for growing shade trees. A disturbed soil is one that has been altered from a forest or field condition. For the most part, disturbed soils have been altered by the disruptive activities of man. In addition, soil structure is altered by earth-moving equipment used in excavation and trenching. Abundant subsoil fill from these activities is often mixed into the surface soil. Most urban and suburban soils near buildings and roads have been so altered that they bear little resemblance to the soils in nearby forests and fields. These soils are usually hostile root environments for transplanted trees and shrubs.

Macdonald, J. 1982. **Mechanical tree climbing**. Arboricultural Journal 6: 139-144.

Two major concerns in tree surgery are the inter-related problems of climber fatigue and safety. The former can affect the operation in three ways. A tired climber has dulled enthusiasm for the job, his concentration is diminished and, because his physical ability is temporarily impaired, his performance while in the tree can be well below par and therefore the operation may become dangerous. The new machine developed at Westonbirt will go a long way in providing an easy answer to many of these tree climbing and pruning problems. The machine has a two-man industrial platform with a weight capacity of 200 kilograms. Drive to each wheel is independent and is ideal for allowing unlimited maneuverability between obstacles such as young trees and shrubs. There are controls on both the carriage and platform — the machine is normally driven using the controls on the platform which means that time is not lost in raising and lowering the arm.