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Distance to Water Table

David Rueber

Iowa State University, drueber@iastate.edu

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Abstract

One of the reasons the Northern Research Farm south of Kanawha was purchased was to study tile drainage systems. In order to measure the depth to the water table, an open-ended pipe was installed in the ground near a four-foot-deep tile line. Since 1963, the distance to water table for selected dates has been recorded.

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Distance to Water Table

David Rueber, farm superintendent

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The water table in a typical year is at or above the tile line from April 15 through May 20 as shown in Figure 1. The water table drops during the summer months and reaches its lowest level between September 16 and October 28. Then it starts rising again. The most-rapid drawdown

period is in August. This trend agrees with the monthly soil moisture values at the farm between 1954 and 1983 calculated by R. H. Shaw and R. E. Carlson.

Only in 5 years of the 42 years did the water table fail to rise to the tile level by July 1. Usually when this happened, the previous year had been dry.

In 2005, the water table rose to within two in. of the ground surface on May 13. It reached its lowest level (7.17 ft) on September 16. Rains in the last half of September brought the water table back up close to the tile level by September 30 (Figure 1).

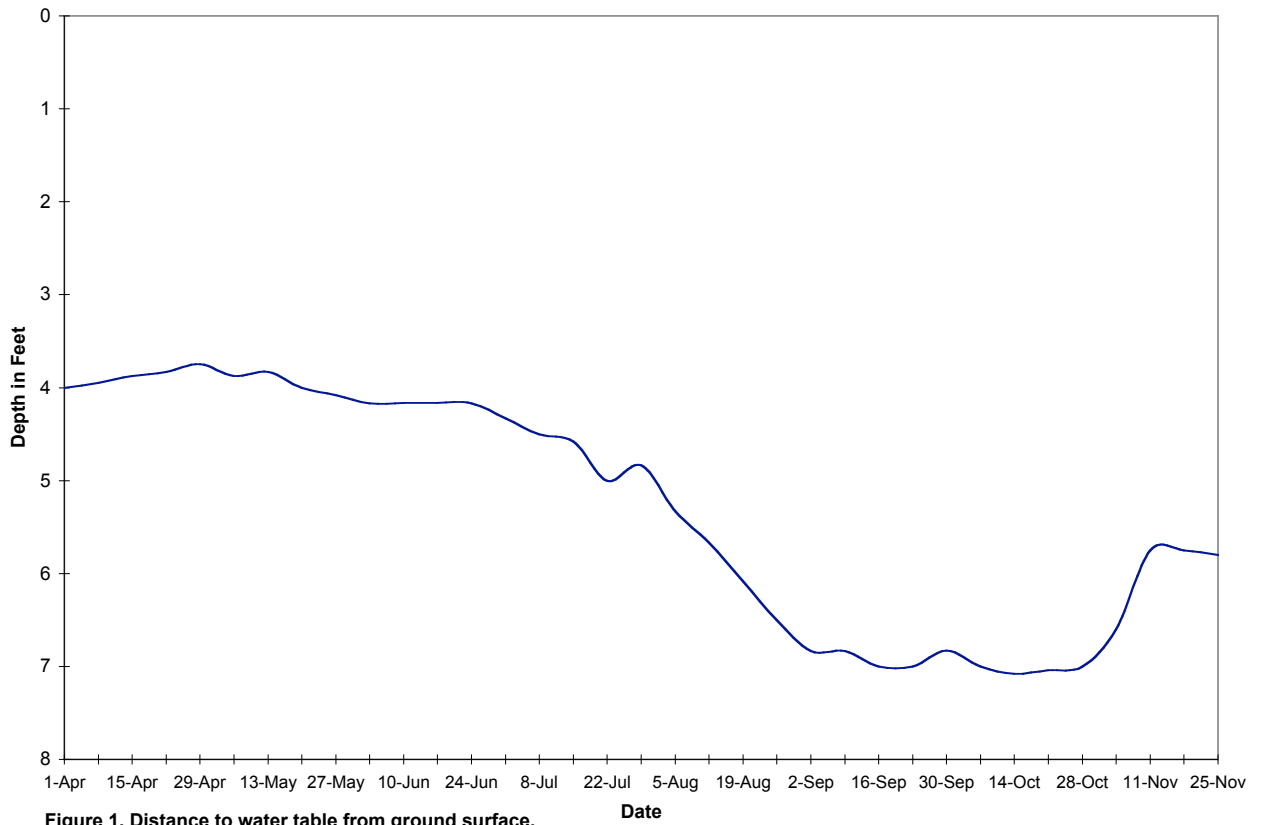


Figure 1. Distance to water table from ground surface.