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CLIMATOLOGICAL DATA FOR EAST TEXAS*

D. R. Paterson, D. R. Earhart, and K. E. Cushman

Temperature, amounts and distribution of rainfall, and wind velocity are important factors in the selection of adapted vegetable varieties, proper planting and harvest dates, designing irrigation systems and improvising techniques for wind protection in any one area of Texas. For 29 years, maximum and minimum temperatures and rainfall amounts have been recorded at a U.S. Department of Commerce Weather Bureau Station near Tyler, Texas (Figs. 1, 2). Wind movement for 15 years has also been observed at the Texas Agricultural Experiment Station at Overton, Texas (Fig. 3).

Typical examples of the effects of climatological factors for sweet potatoes, southernpeas and tomatoes grown in East Texas are as follows:

Sweet potato roots will chill if subjected for 7-10 days to a less than 60°F soil temperature in the spring following the root bedding operation or in the autumn before harvest and storage. At a depth of 3 inches the temperature of a Bowie fine sandy loam soil closely follows the ambient air temperature (2, 5) (Figs. 1, 4).

Southernpeas are not usually considered a crop that needs irrigation, but sprinkler irrigation increased the yield of different varieties of this crop from 38 to 121 percent (1, 4) (Fig. 2).

Wind protection of a crop of Homestead 24 tomato plants resulted in a 56 percent increase in marketable and a 49 percent increase in total yield of tomato fruit (6) (Fig. 3).

*Data supplied for this report by Dr. E. W. Lyle of Tyler and the U.S. Department of Commerce Weather Bureau whose help is greatly appreciated.

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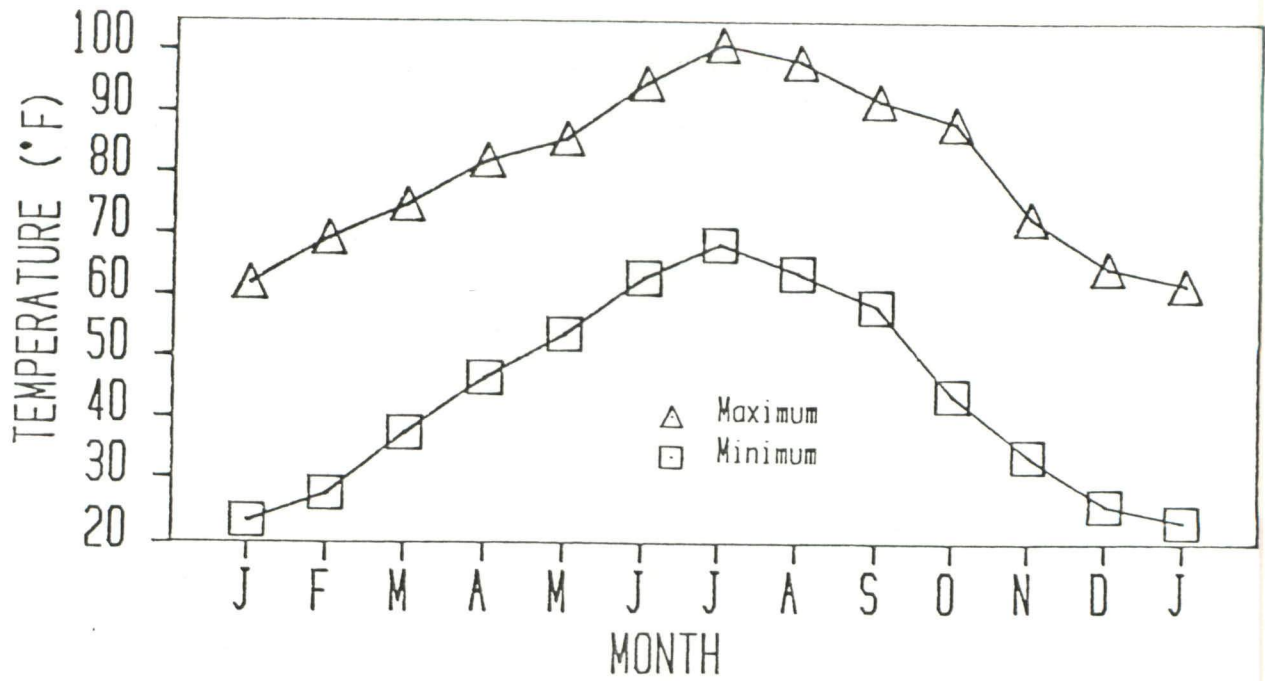


Fig. 1. Maximum and minimum temperatures for Tyler, Tx. over a 29 year period; 1955-83.

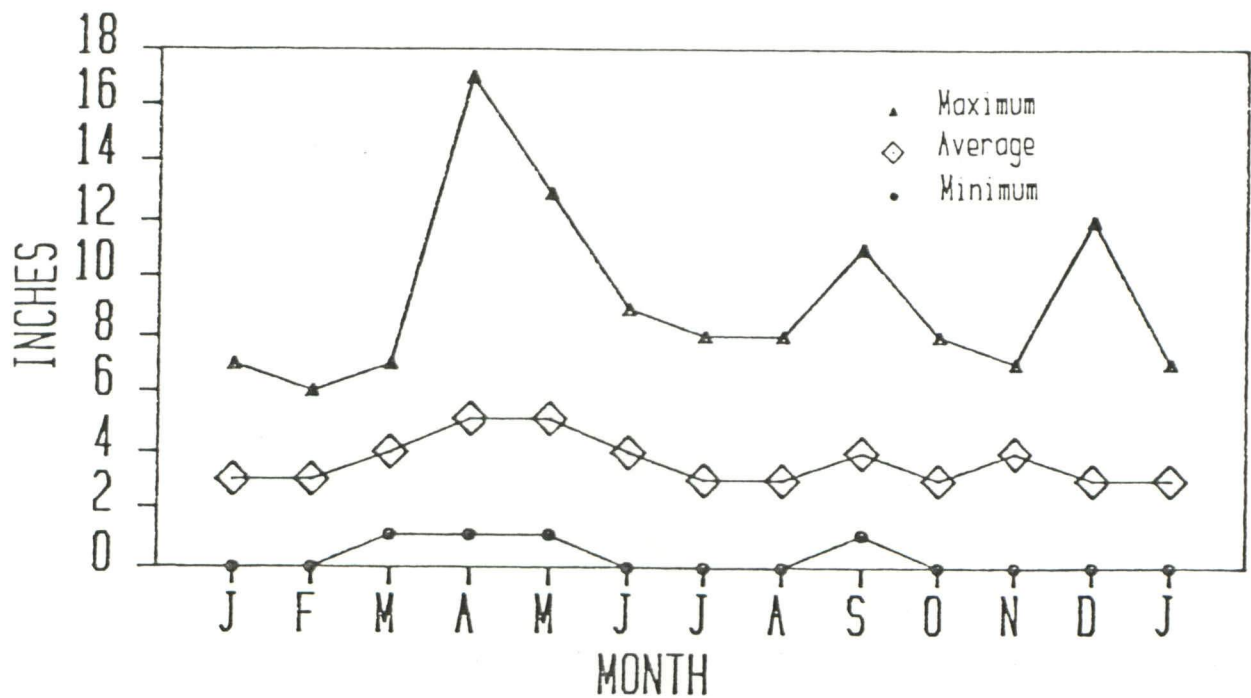


Fig. 2. Maximum, average and minimum rainfall for Tyler, Tx. over a 29 year period; 1955-83.

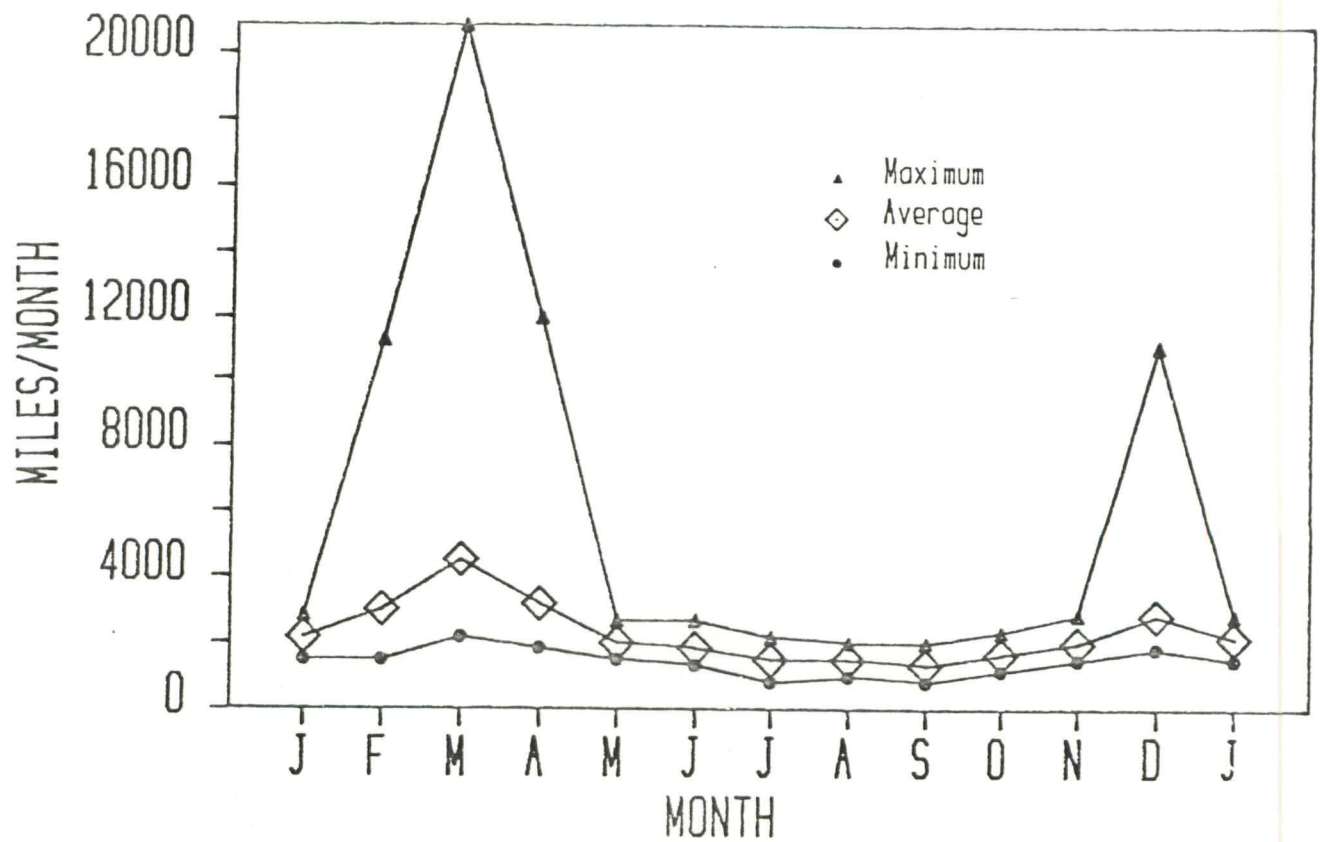


Fig. 3. Maximum, average and minimum wind movement for Overton, Tx. over a 15 year period; 1969-83.

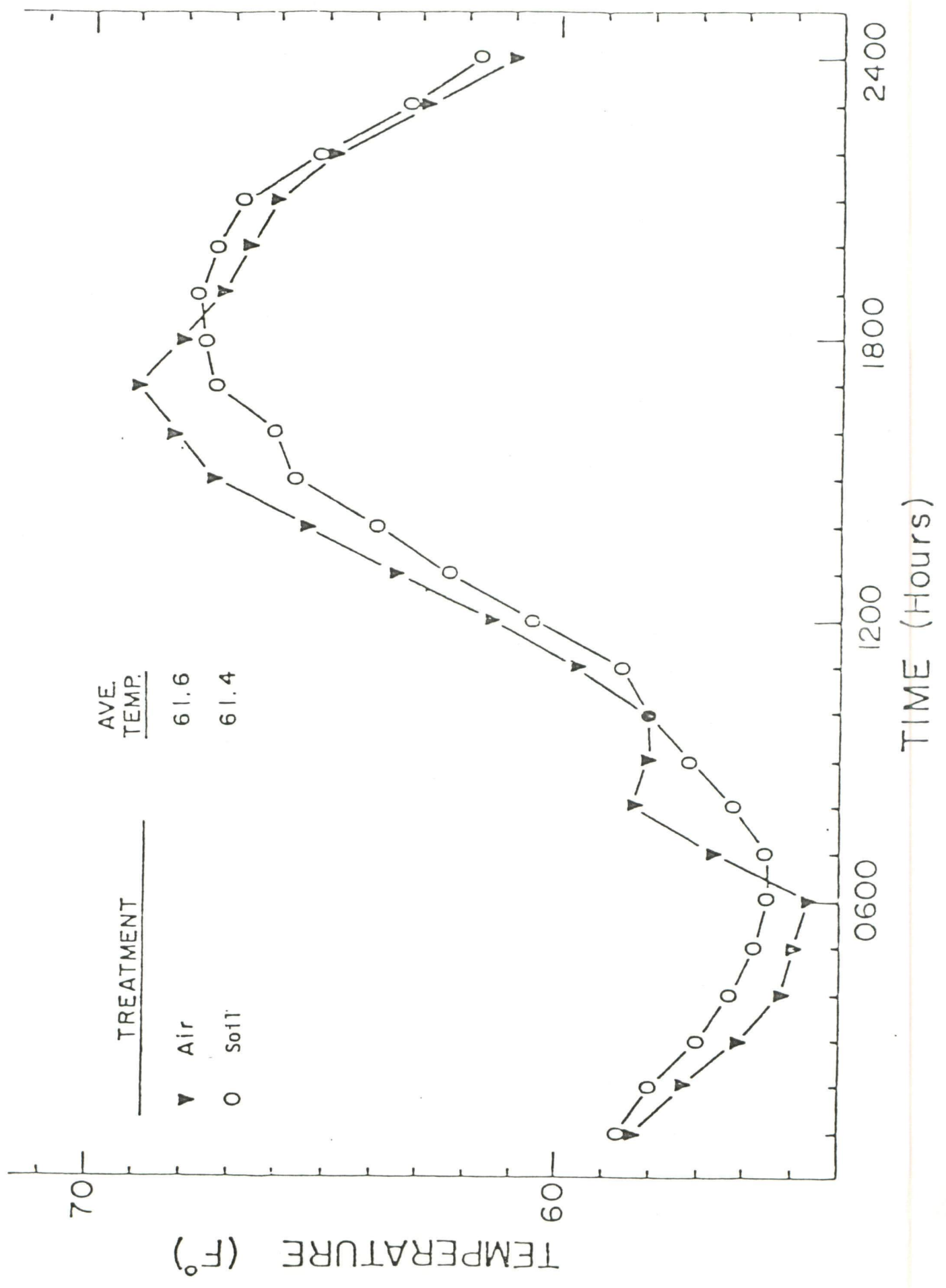


Fig. 4. Daily temperature variations of air and soil temperatures measured by copper constantin thermocouples inserted to a depth of 3 inches in a Bowie fsl soil covering 'Centennial' variety sweet potato roots.