Soil humidity variation in an agroforestry system

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Introduction

Information on the soil water content in agroforestry system in relation to absence of trees is scarce. Soil water content can affect plant growth and soil behavior interfering with yield potential. In this study, we report fluctuating soil water content between *Eucalyptus grandis* ranks compared with the water content in absence of trees.

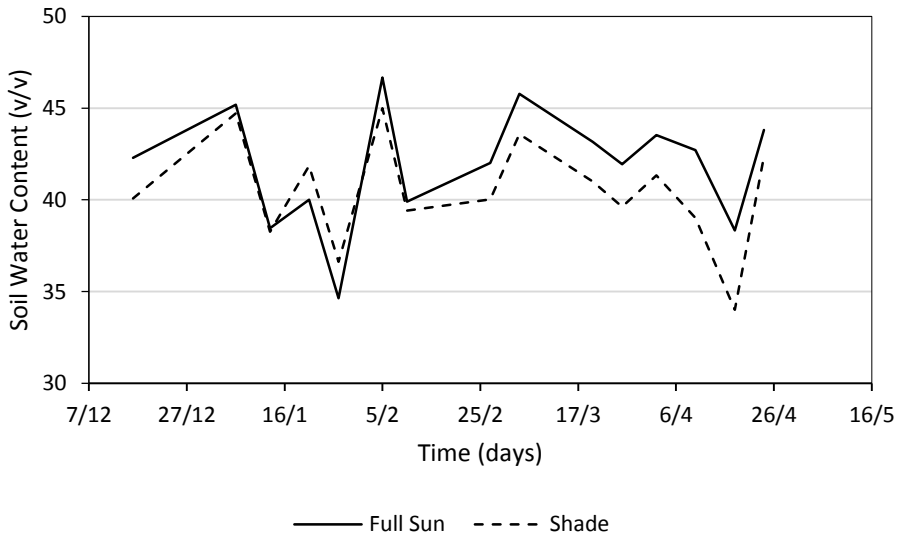
Material and Methods

The field work was carried out in Londrina, Paraná State, southern Brazil (23º48'S; 50º98'W; altitude 500 m) during the 2014/2015 soybean cropping season, from December to April. During that period volumetric water content in the 0.2 m soil layer was recorded weekly in the soybean crop growing between single rows of five years old *E. grandis*, spaced 20 m (shade), and compared with the soil water content of soybean growing in the absence of trees (full sun).

Results and Conclusion

On the average of the entire assessment period the soil water content in absence of trees was 43 mm higher than in the presence of trees (Fig. 1).

Fig. 1. Volumetric soil water content in soybean growing between single rows of *Eucalyptus grandis* (shade) and in the absence of trees (full sun). Londrina, PR, Brazil.



The data suggest that during the soybean cropping season, in the integrated crop-livestock-forest system, the presence of trees poses a higher water demand.

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