A-102

Application of collecting trough method to identify the drought resistance of soybean

*Jun-kui Ma**, Shanxi Academy of Agricultural Sciences,Taiyuan,China
Xiao-rong Liu, Shanxi Academy of Agricultural Sciences,Taiyuan,China
Wei Zhou, Fenyang Meteorological Bureau Fenyang Shanxi,China
Xue-yi Liu, Shanxi Academy of Agricultural Sciences,Taiyuan,China

Drought resistance is a complex quantitative trait in soybean. However, the accurate drought resistance of plant is difficult to obtain because the water content of soil is difficult to control. In the present study, to control the water content of soil, collecting troughs with different diameters were placed on the field to collect rain, and its effects on soybean growth and field environment were evaluated, and then the feasibility of this method to identify the drought resistance of soybean was tested. The results showed that the plant height, number of nodes per plant, grain number per plant and seed weight per plant were decreased significantly as the diameters of collecting trough increased, but differences in the number of branches per plant, pod height was not significant. The diameters of collecting trough also had influence on the soil temperature and moisture, particular on the soil temperature at 5 cm depth at 14:00 and soil moisture between 0~10cm depth. Above results indicated that placing collecting trough between soybean rows can reduce soil moisture; there are significant differences among different diameters of collecting trough in drought resistance related traits, e.g. plant height, number of nodes per plant, number of seed and seed weight per plant. Thus, treated the normal filed management as control, placement of collecting trough with diameter of 25cm on field can be used to evaluate the drought resistance of soybean.