

The Water Requirement Characteristics of Proso and Millet Seedlings at Different Developmental Stages

Deng Xiping

Shan Lun

Abstract

Under the water and water stress of 0.3M mannitol solution moderling conditions, during the different developmental stages of proso and millet seedlings, water content, water potential, respiratory rate, amylase activity and seedling growth were measured and analysed, with the water conditions as a major factor. Considering the difference between seedling growth and development, through controlling water regimes, the developmental stages of Proso and Millet seedlings may be divided as follows: (1) quiescent stage in which metabolic activity is very weak;

(2) imbibitional stage in which respiration from weak become to strong; (3) germinating stage in which amylase activity and respiratory rate increase rapidly and (4) radicle and plumule extensive stage in which metabolism and growth are very actively. The results also showed that under the two kinds of water conditions, water absorbing rate, water potential and germination time of the Millet were more higher and earlier than that of the Proso.

作物生态研究室学术活动简讯 (2)

1987年10月13—17日, 由中国植物生理学会环境生理专业委员会主持, 在兰州大学召开了第四届全国植物水分和抗旱生理学术讨论会, 共收到学术论文81篇, 来自全国21个省、市、自治区47个大学和科研单位的60多名代表出席了会议。中科院西北水保所陈培元和上海植生所王洪春主持了会议。

(陈培元供稿)