

## NFT水培装置与自动供液系统使用效果

### A STUDY ON THE EFFECTS OF NFT HYDROPONIC INSTALLATION AND AUTOMATIC WATERING SYSTEM

投稿时间: 1985-11-21

稿件编号: 19880305

中文关键词:

英文关键词:

基金项目:

作者	单位
徐师华	中国农业科学院农业气象研究室
罗中岭	中国农业科学院农业气象研究室
吴毅明	中国农业科学院农业气象研究室

摘要点击次数: 5

全文下载次数: 22

中文摘要:

在利用NFT水培方式时,需要有一套理想的装置和供液系统,其中以解决自动间断循环供液是关键。本试验利用自制的电子程序控制器进行昼夜自动间断循环供液。试验结果表明:番茄各发育期,昼夜24小时,间断循环供液比白天循环供液、白天一次供液均提前半个月;植株高度、叶片数、根系生长以及叶片气孔阻力和蒸腾强度都有明显差异;并察明了温室内温湿度的变化与耗液量的关系。在产量上,按三穗果以下计产(含第三穗果),威尔多品种在昼夜24小时自动间断循环供液处理下,平均单株产量最高,白天循环供液平均单株产量次之,而白天一次供液平均产量最低,仅相当于最高产量的十分之一。结果证明了昼夜自动间断循环供液,由于营养液循环交替,解决了液气矛盾,始终保持了床面一层水膜,不会产生脱液现象,促进了植株健壮成长。本试验仅解决了营养液自动循环供应。关于pH值和EC值的调节与控制,将另题研究。

英文摘要:

When the NFT hydroponics be used, it is necessary to set up an ideal installation and watering system. The key to the settlement of the project lies in the automatic intermittent circular watering system. Authors used the automatic intermittent circular watering system day and night controlled by a self-made electronic program controller. The results of this experiment show that the growth rate of different stages of tomato influenced by the watering systems is that: the day and night intermittent circular watering system is better than the day time continuous circular watering system or once a day watering system. The fruiting stage of day and night intermittent circular watering system was half a month earlier than above other two systems. The height of the plant, number of leaves, root system, resistance of stomata and leaf blade transpiration with the day and night intermittent circular watering system were all better than other two watering systems. The yield of the single plant of tomato cultured under above three watering systems is arranged as follows: day and night intermittent circular watering system is the highest, day time continuous watering system is the medium, and once a day watering system the lowest. The highest yield is ten times as high as the lowest one. It is due to that the day and night intermittent circular watering system solves the contradictions of exchange of the water-gas phases within the solution. A water film is always existed at the top of the solution bed, which will make the plant roots never out of solution. All these promote the plant growth. Surely the pH value and EC value of the cultural solution are also very important for the hydroponic culture. It will be presented in another paper.

[查看全文](#)

[关闭](#)

[下载PDF阅读器](#)

主办单位：中国农业工程学会 单位地址：北京朝阳区麦子店街41号

服务热线：010-65929451 传真：010-65929451 邮编：100026 Email: tcsae@tcsae.org

本系统由北京勤云科技发展有限公司设计