

Abstract

A planting device (1), a multilayer stereo-planting system using the planting device (1), and a planting system of a plant factory using the multilayer stereo-planting system are provided. The planting device (1) includes the planting tray (10) and the planting board (20) which can be moved as a whole. The nutrient solution inlet (101) and the nutrient solution outlet (102) are located on the same side of the planting tray (10). The multilayer stereo-planting system includes the support rack and the nutrient solution supply system installed on the support rack. The planting device (1) can be detachably installed on the support rack as a whole. The planting tray (10) and the planting board (20) of the planting device (1) can be taken out and placed in together, protects the plant seedlings from injuries, and avoids the leakage phenomenon of the nutrient solution. Each planting device (1) is independently taken out and placed in without affecting the growth of other plants on the support rack, and simplifies the production management. The multilayer three-dimensional cultivation system solves the problems of the plant three-dimensional cultivation in the aspects of the nutrient solution supply, the automatic operation, the cultivation device, the pipeline cleaning, the environmental control and the likes.