

Claims

1. An irrigation system for use with vertical growth towers that comprise a lift mechanism and at least one stack of growth trays, the at least one stack of growth trays comprising
5 a plurality of growth trays, the irrigation system comprising:
a watering head configured to deliver water from a reservoir to a growth tray within the plurality of growth trays in a vertical growth tower, the watering head being mounted onto the lift mechanism of the vertical growth tower such that during use the watering head is lifted by the lift mechanism to a growth tray and water is delivered by
10 the watering head to the growth tray.
2. The irrigation system according to claim 1, wherein the reservoir is connected to the watering head by a hose.
- 15 3. The irrigation system according to claim 1 or claim 2, wherein the reservoir is located remotely from the lift mechanism.
4. The irrigation system according to any preceding claim, wherein in situ within a vertical growth tower the watering head is separated from the growth trays within a stack of
20 growth trays by a space.
5. The irrigation system according to any preceding claim, the watering head comprises a pressure valve.
- 25 6. A method of using an irrigation system according to any preceding claim, the method comprising the steps:
a) moving the lift mechanism such that the watering head of the lift mechanism is adjacent to a growth tray within the plurality of growth trays;
b) projecting water from the watering head into the growth tray; and
30 optionally
c) repeating steps a) and b) until each growth tray within the plurality of growth trays that requires water has been irrigated by the irrigation system.
7. The method according to claim 6, wherein the method is repeated until each tray within
35 a vertical growth tower have been watered, or until a subset or group of growth trays within the plurality of growth trays within a stack of growth trays have been watered.

8. The method according to claim 7, wherein there is a delay after a first growth tray has been irrigated.
9. The method according to any one of 6 to 8 where the watering head comprises a pressure valve, water is projected from the watering head into the growth tray after the pressure of water provided to the watering head has reached or exceeded a predetermined threshold pressure.
10. The method according to claim 9, wherein the predetermined pressure is selected from 100 kPa to 300 kPa.
11. A vertical growth tower comprising at least one stack of growth trays and a lift mechanism configured to mechanically transfer growth trays from the at least one stack of growth trays between a management position and a storage position, wherein the at least one stack of growth trays comprises a plurality of growth trays, wherein the lift mechanism comprises an irrigation system according to any of claims 1 to 5.
12. The vertical growth tower according to claim 11, wherein each growth tray within the plurality of growth trays comprises a receiving member configured to receive water from the watering head.
13. The vertical growth tower according to claim 12, wherein the receiving member comprises a tubular element.
14. The vertical growth tower according to claim 12 or claim 13, wherein the receiving member comprises a plurality of apertures.
15. The vertical growth tower according to claim 14 when dependent on claim 13, wherein the diameter of each aperture within the plurality of apertures varies along the length of the tubular element.
16. The vertical growth tower according to any of claim 11 to claim 15, wherein the vertical growth tower comprises two stacks of growth trays and the lift mechanism is located between the two stacks of growth trays, the lift mechanism comprising a first watering head facing a first stack of growth trays and a second watering head facing a second stack of growth trays.