CLAIMS

1. A growing container (110) for use in a growing system in which a plurality of growing containers (110) are arranged in stacks (12) within a series of uprights (16) forming a framework (14), and beneath a load handling track grid, the growing system comprising a series of lighting means (60), the lighting means being deployable from a first position adjacent a given growing container (110) in the stacks (12) to a second position above the given growing container (110), such that the light emitted by the lighting means is evenly distributed across the growing volume of the given growing container (110),
the growing container (110) comprising:

a tray-like base;

a box-type supporting framework mounted above the tray-like base to form a support for arranging the plurality of growing containers in a self-supported stack (12); and

a guide portion (114') positioned along opposing sides at the top of the box-type support structure for guiding the lighting means (60) between the first position and the second position,

wherein the guide portion (114') of the growing container is configured such that when the growing container is located within a stack (12) within the framework (14) of the growing system, the guide portion (114') of the growing container aligns with a guide portion (114) of the uprights (16).

2. A growing container according to any preceding claim, wherein the box-type framework comprises:

a separate structure fixedly mounted on the tray-like base; or

a structure integrally formed with the tray-like base.

3. A growing container (110) according to any preceding claim, wherein the guide portion (114') of the growing container is configured, when the growing container is located within a stack within the framework (14) of the growing system, to join the guide portion (114) of the uprights by a radius portion formed or mounted on the guide portion (114) on the uprights.

4. A growing container according to any preceding claim, the growing container comprising a lid structure (120) formed of a plastic material capable of internal reflection or refraction of light.

5. A growing container according to claim 4, wherein the lid structure (120) is independently removable.

6. A growing container according to any preceding claim, wherein the base is formed of plastic material capable of internal reflection or refraction of light.

7. A growing container according to any preceding claim, further comprising one or more additional services selected from: data logging means; communication means; heating means; cooling means; temperature monitoring means; gas sensing means; a power supply; a water supply; fluid supply means; a supply of nutrients.

8. A growing system comprising:

a first set of substantially parallel rails or tracks and a second set of substantially parallel rails or tracks extending transverse to the first set in a substantially horizontal plane to form a grid pattern comprising a plurality of grid spaces;

a plurality of growing containers (110) according to any of claims 1-7 arranged in stacks (12), and located beneath the grid spaces and within a series of uprights (16) forming a framework (14);

a series of lighting means (60) deployable from a first position adjacent a given growing container (110) in the stacks (12) to a second position above the given growing container (110), such that the light emitted by the lighting means (60) is evenly distributed across the growing volume of the given growing container,

wherein the uprights (16) comprise a mechanism (15) configured to move the lighting means (60) between the first position and the second position; and

at least one load handling device (30) disposed on the tracks, arranged to move laterally above the stacks (12), the or each load handling device (30) comprising a lifting device arranged to lift at least one growing container (110), or part thereof, from a stack (12).

9. A growing system according to claim 8, wherein the mechanism (15) is operable in response to a signal received from a load handling device.

10. A growing system according to claim 8, wherein the mechanism (15) is drivable by the at least one load handling device located on top of the uprights (16).

11. A growing system according to any of claims 8-10, wherein the mechanism (15) is operable under remote control from a control centre.

12. A growing system according to any of claims 8-11, wherein the lighting means (60) is comprised in a panel member (113) disposed within and moveable along the guide portions (114, 114') of the uprights (16) and the growing container (110).

13. A growing system according to claim 12, wherein the panel member (113) is movable by the mechanism (15) between a position substantially parallel to uprights (16) of the framework (14) and a position substantially perpendicular to the uprights (16) of the framework (14).

14. A growing system according to any of claims 8-13, wherein the emitting surfaces of the lighting means are disposed towards a growing volume (122) of the growing container (110).

15. A growing system according to any of claims 8-14, wherein the series of lighting means (60) is configured to emit light of a predetermined wavelength or range of wavelengths suitable for the cultivation, control or maintenance of selected living organisms.

16. A method of growing organisms within a growing system according to any one of claims 8-15, comprising:

providing growing means within a storage container (110);

positioning the container (110) within a storage system;

providing required light, water and nutrients; and

moving the containers (110) using at least one robotic load handling device (30) operable on a grid system above the containers (110);

wherein the light is provided via lighting means (60) deployable from a first position adjacent the sides of the containers (110) to a second position above the containers (110).