

CLAIMS

1.- ____ An insect breeding system (1)-for the breeding of insect larvae, comprising:
a multitude of similar, stackable crates (20, 30, 40),₂ a climate housing (2),₂ and crate stacking equipment (3);₁

5 wherein the multitude of similar, stackable crates (20, 30, 40)-each have:

- ____ a same width (D1);₂

- ____ a same length (D2);₂

- ____ a same corner structure (4)-that comprises complementary lower elements (5) and upper elements (6),₂ configured to allow stacking of the crates (20, 30, 40)-on top of each other by allowing the upper elements (6)-of a lower crate (20, 30, 40)-to interact with lower elements (6)-of an upper crate (20, 30, 40);₂

- ____ a containment area (7)-defined by the width (D1),₂ the length (D2),₂ and a height (D3)-of the crate,

wherein each crate (20, 30, 40)-~~can be~~ is tuned to one of the following crate types, e.g.

15 ~~by providing the crates (20, 30, 40) with suitable holders (8, 8'), and/or removing at least a part of a bottom (9) thereof~~ of the crates being modified to tune the crates to mutually different crate types; and

wherein the below three crate types are part of the insect breeding system:

20 ~~an~~ ____ a hatching egg crate (E),₂ suited to contain insect eggs (35)-in the containment area (7)-thereof, ~~e.g. allowing the hatching of said insect eggs (35) into baby~~ hatching egg crate being open-bottomed and comprising holders for holding spawn structures;

____ a larvae (36);

25 ~~a larvae crate (L),₂ suited to contain larvae (36), e.g. baby larvae, and larvae food in the containment area (7)-thereof, allowing the rearing of such larvae (36);~~ said larvae crate being closed-bottomed;

- ____ an insect crate (I),₂ suited to contain live adult insects (34)-including mother insects and insect food in the containment (7)-area thereof, allowing the mothers to lay eggs (35); said insect crate being bottomed and comprising a plurality of spawns structures in which mother insects spawn their eggs;

wherein the climate housing (2) is provided with one or more stacks (10, 11) of said similar crates (20, 30, 40),₂ each stack (10, 11) having a stack height of at least five, such as at least eight, e.g. at least ten crates (20, 30, 40); and

; and wherein the crate stacking equipment (3) is configured to handle each of the egg

- 5 (E),₂ larvae (L),₂ and insect (I) crate types (20, 30, 40) to be arranged as a part of the one or more stacks (10, 11), e.g. on top of a stack (10, 11) or below a stack (10, 11),₂ individually and independently.

2.- ____ Insect breeding system according to claim 1, wherein the stack (40, 41)

- 10 comprises a multitude of crates (20, 30, 40) ~~modified in that they have~~ having an open bottom structure, and at least one collection crate, having a closed bottom structure, allowing insects of a particular life cycle, arranged in the open-bottomed crates, to fall through the open bottom structure thereof, said insects of said life cycle being collected in the collection crate.

- 15 3.- ____ Insect breeding system according to claim 1 ~~or 2~~, comprising a hatching stack (10) with a multitude of egg crates (E) and at least one larvae crate (L),₂

wherein the egg crates (E) are embodied as hatching egg crates (HE) for the hatching of said insect eggs (35) into baby larvae (36),₂ the hatching egg crates (HE) being modified in that ~~they the~~ the hatching egg crates have an open bottom structure,

- 20 wherein the larvae crate (L) is embodied as a larvae collection crate (LC) having a closed bottom structure, and

wherein the hatching egg crates (HE) are arranged on top of each other and the larvae collection crate (LC) is arranged below said hatching egg crates (HE),₂

- 25 such that baby larvae (36) hatching from the eggs (35) contained in the hatching egg crates (HE) are able to fall through the open bottom structure of the multitude of stacked hatching egg crates (HE),₂ said baby larvae (36) being collected in the larvae collection crate (LC), e.g. ~~on the closed bottom structure thereof~~.

- 30 4.- ____ Insect breeding system according to ~~one of the preceding claims, wherein the egg crates (E), e.g. the hatching egg crates (HE), are modified in that they are substantially bottomless.~~

~~5. Insect breeding system according to one of the preceding claims claim 3 or 4,~~
 wherein the closed bottom structure of the larvae crate (LC) is embodied as a slidable plate
 (13)_{1,2} configured to receive the hatched baby larvae (36)_{1,2}

5 ~~6. 5. Insect breeding system according to one of the preceding claims claim 3—5,~~
 wherein the closed bottom structure of the larvae collection crate (LC) is tilted or tiltable with
 respect to a horizontal orientation, ~~e.g. being arranged or able to be arranged at an angle of~~
~~between 5deg and 15deg with respect to the horizontal orientation,~~ and wherein the larvae
 collection crate (LC) comprises a slotted opening, ~~preferably at the lowest point thereof,~~ to
 10 allow for the automatic collection of baby larvae (36), ~~e.g. hatched baby larvae,~~ from the
 larvae collection crate (LC)_{1,2}

~~7. 6. Insect breeding system according to one of the preceding claims claim 1,~~
 comprising a spawning stack (11) including a multitude of insect crates (I) and at least one egg
 15 crate (E)_{1,2}

wherein the insect crates (I) are embodied as open-bottomed insect crates, modified in
that the insect crates (OI), modified in that they have an open bottom structure,

wherein the egg crate (E) is embodied as a collection egg crate (EC)_{1,2} having a closed
 bottom structure, and

20 wherein the egg collection crate (EC) is arranged below an open-bottomed insect crate
 (OI)_{1,2}

such that eggs (35)_{1,2} laid by mother insects (34) contained in the open-bottomed insect
 crates (OI)_{1,2} fall through the open bottom structure of the open-bottomed insect crate (OI)_{1,2} said
 eggs being collected in the collecting egg crate (CE)_{1,2}

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~~8. 7. Insect breeding system according to claim 76,~~ wherein the open-bottomed
 insect crate (OI) comprises a sieve bottom (32)_{1,2}

~~9. 8. Insect breeding system according to one of the preceding claims claim 1,~~ comprising a
 30 spawning stack with a multitude of insect crates (I) and at least one egg crate (E),
wherein the insect crates (I) that are embodied as bottomed insect crates (BI),

~~wherein the~~, and a hatching stack with a multitude of egg ~~crate (E)~~ is ~~crates~~ that are embodied as ~~a hatching egg crate (HE)~~ crates for the hatching of said insect eggs (35) into baby larvae (36), the hatching egg crates (HE) being modified in that ~~they~~ the hatching egg crates have an open bottom structure.

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~~10-9.~~ 9. Insect breeding system according to ~~one of claim 1,~~

wherein the preceding claims, comprising a spawning stack (11) with a multitude of insect crates (I) that are embodied as bottomed insect crates (BI), and a hatching stack (10) with a multitude of egg crates (E) that are embodied as hatching egg crates (HE) for the hatching of said insect eggs (35) into baby larvae (36), the hatching egg crates (HE) being modified in that they have an open bottom structure, preferably a hatching stack (10) according to one of the claims 2—5.

~~11. Insect breeding system according to claim 9 or 10, wherein the bottomed insect crate (BI) comprises a plurality of spawn structures (15), in which mother insects (34) spawn their eggs (35),~~

~~wherein the bottomed insect crate (BI) is modified in that it~~ crate is configured to hold the spawn structures (15) in a longitudinal direction of the ~~bottomed~~ insect crate (BI), said spawn structures (15) being dimensioned such that there is a space (16, 17, 18) between respective ends of the spawn structure (15) and side walls (19, 20, 21, 22) of the bottomed insect crate (BI), and

wherein the hatching egg crate (HE) is configured to receive the spawn structures (15) in a lateral direction of the hatching egg crate (HE).

~~12-10.~~ 10. Insect breeding system according to ~~one of the claims 9—11~~ claim 1, wherein the hatching egg crate (HE) comprises a pair of spawn structure hangers (23) including hanging slots (24), the hanging slots (24) being configured to receive the spawn structures (15) such that the spawn structures (15) hang in the hanging slots (24).

~~13-11.~~ 11. Insect breeding system according to ~~one of the preceding claims~~ claim 1, wherein the insect crate (I), the larvae crate (L), and the egg crate (E) have mutually different colours.

~~14-12.~~ 12. Method for the breeding of insects, comprising:

providing a multitude of similar, stackable crates, a climate housing, and crate stacking equipment;

wherein the multitude of similar, stackable crates each have:

- a same width;

5 - a same length;

- a same corner structure that comprises complementary lower elements and upper elements, configured to allow stacking of the crates on top of each other by allowing the upper elements of a lower crate to interact with lower elements of an upper crate;

- a containment area defined by the width, the length, and a height of the crate,

10 wherein each crate is tuned to one of the following crate types; and

wherein the below three crate types are part of the insect breeding system:

- a hatching egg crate, suited to contain insect eggs in the containment area thereof, said hatching egg crate being open-bottomed and comprising holders for holding spawn structures;

15 - a larvae crate, suited to contain larvae, and larvae food in the containment area thereof, allowing the rearing of such larvae;

- an insect crate, suited to contain live adult insects including mother insects and insect food in the containment area thereof, allowing the mothers to lay eggs, said insect crate being bottomed and comprising a plurality of spawns structures in which mother insects spawn
20 their eggs;

wherein the climate housing is provided with one or more stacks of said similar crates, each stack having a stack height of at least five; and wherein ~~use~~ the crate stacking equipment is ~~made of an insect breeding system (1) according to any of the preceding claims.~~ configured to handle each of the egg, larvae, and insect crate types to be arranged as a part of the one or

25 more stacks, individually and independently.

13. Insect breeding system according to claim 1, wherein each stack has a stack height of at least eight.

14. Insect breeding system according to claim 1, wherein the larvae crate is suited to contain baby larvae.