

applied to the wall and which might contain seeds. This is known as a "seeded wall".

The invention also relates to a system which makes it possible to cultivate plants vertically or in a similar position.

According to a first aspect of the present invention, a containing module for providing vegetation on walls, for example facades, is provided. The containing module comprises at least one porous face comprising interconnected porosities. The porous face permits the circulation of water and air and is used to sow seeds of plants and anchor the roots of said plants in said porosities. The roots grow in a substrate after having passed through the porosities.

~~The~~According to the present invention, a "containing module" is constructed, for example, from concrete or another non-porous material. The module comprises at least one face or wall which is porous, the spaces or porosities thereof being interconnected. The porous face is combined with an (inorganic and/or organic) substrate for the purpose of providing vegetation in new or existing facades. The module may take different forms, for example, in particular that of a building block, a tile, a panel or a brick according to the embodiments disclosed in detail in the present application.

The module according to the invention comprises a rigid shell, which is solid and self-supporting and comprises, as indicated above, at least one porous face or wall comprising interconnected spaces or porosities which permit the roots to be established. The provision of vegetation in the module is carried out by sowing in the spaces or porosities and the plants being directly rooted into the rigid surface where the porosities are interconnected, which forms the association of a volume of roots in the porous face and an environment where the roots grow and where water circulates in the substrate. As a result, the roots pass through an inert element, for example of 2 to 3 cm (depending on the thickness of the porous face), before finding water and

- the module is resistant to UV, fungi and algae;
- there is never any surface water but this is present in the soil or the compost (substrate);
- maintenance is easy;
- watering is carried out in the substrate contained in the module, for example by an irrigation system, the face with interconnected spaces remaining aerated and thus dry;
- it is lightweight, whilst remaining rigid;
- it permits shorter delivery times than other systems on the market;
- it involves reduced transport costs relative to other systems on the market, in particular without the transportation of plants;
- it forms an ecological system for the substrate in terms of primary energy (concrete).

The module according to the invention may be used in numerous ways, for example to form a wall. To form said wall, as a result, the desired number of modules according to the invention are stacked and an irrigation system as disclosed in more detail hereinafter is added thereto.

According to a second aspect of the present invention, there is provided a structure comprising at least one module as described herein.

Naturally, said embodiments and dimensions are provided by way of non-limiting example and further embodiments

Claims

1. A containing module for providing vegetation on walls, for example facades, said module comprising at least one porous face comprising interconnected porosities ~~(1)~~, said porous face permitting the circulation of water and air and being used to sow seeds of plants and anchor the roots of said plants in said porosities, said roots growing in a substrate ~~(7)~~ after having passed through said porosities.
2. The module as claimed in claim 1, in which said porous face comprises a porosity gradient along which the interconnected spaces are smaller on the external side of the module and wider on the internal side of the module.
3. The module as claimed in one of the preceding claims, said module being formed from concrete or any other equivalent material.
4. The module as claimed in one of the preceding claims, in which the size of the porosities is in the order of at least 0.5 mm.
5. The module as claimed in one of claims 1 to 3, in which the size of the porosities is 1 to 3 mm.
6. The module as claimed in one of the preceding claims, comprising two or more porous faces.
7. The module as claimed in one of the preceding claims, in which the substrate is formed from soil and/or compost or a solid free-draining material.

8. The module as claimed in the preceding claim, in which the solid free-draining material is the same as that used to form the porous face, said solid free-draining material comprising interconnected porosities.

9. The module as claimed in the preceding claim, in which the interconnected porosities of said solid free-draining material are larger than those of the porous face, the module being formed by a juxtaposition of elements, the porosities thereof being of different sizes.

10. The module as claimed in one of the preceding claims, combined with an irrigation system.

11. The module as claimed in claim 10, in which the irrigation system acts in two approximately perpendicular directions.

12. The module as claimed in claim 10 or 11, in which the irrigation system comprises pipes with openings, said pipes being located at a distance of approximately 5 mm from the substrate to avoid being blocked by roots.

13. The module as claimed in one of the preceding claims, having the shape of a building block with six faces ~~(1, 2, 3, 4, 5, 6)~~, at least one of said faces forming said face with interconnected porosities ~~(1)~~ and the substrate being positioned inside said building block.