



VERTICAL FARM BUILDING

Posted on March 28, 2024 by Gabriel Sastre



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Vertical Farm Building
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With its faceted glass facades, monumental entrance hall and stacking of functions, Vertical Farm Beijing gives a striking, architectural face to horticulture within the city. With its reuse of water, passive heat gain and natural cooling, the building shows how food can be produced sustainably in the urban environment.



The Vertical Farm was built on the campus of the Chinese Academy of Agricultural Science; Beijing's and the rest of China's innovation center for fruit and vegetable growing. The transparent three-story building is the prominent entrance to the campus' research facilities and overlooks the city and the

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ring road in downtown Beijing.



The 3,500 m² building spread over three floors houses an array of innovative vertical cultivations around a monumental entrance hall. An educational routing through the building interior, designed by AgriGarden, leads visitors past fruit and berry trees in the open ground, automated vertical lettuce growing, fruit growing under LED light and a rooftop greenhouse with tomato and cucumber growing under daylight.

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To supply millions of inhabitants of China's large metropolises with green and healthy food, its production must be integrated as much as possible in and around the city. Vertical Farm Beijing offers a solution in the form of stacked horticulture on a compact footprint. A new type of building for professional cultivation with accessibility to a wide audience that celebrates the central role of food in the city.

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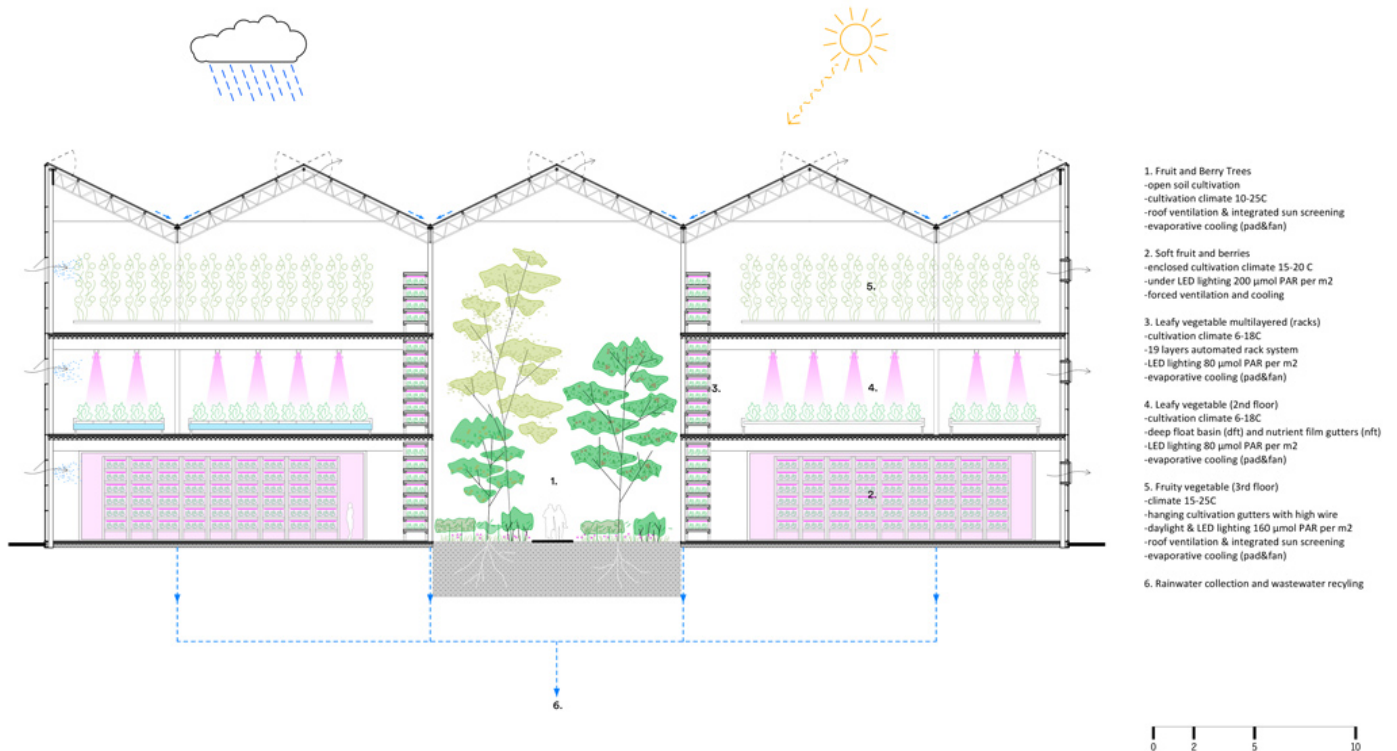
Section

Not a drop of water is wasted in this building. When irrigating the plants, the residual water is recycled and reused. The building's climate control uses natural ventilation and cooling based on evaporation. Passive heat extraction from the sun and residual heat from LED lighting is used for heating.

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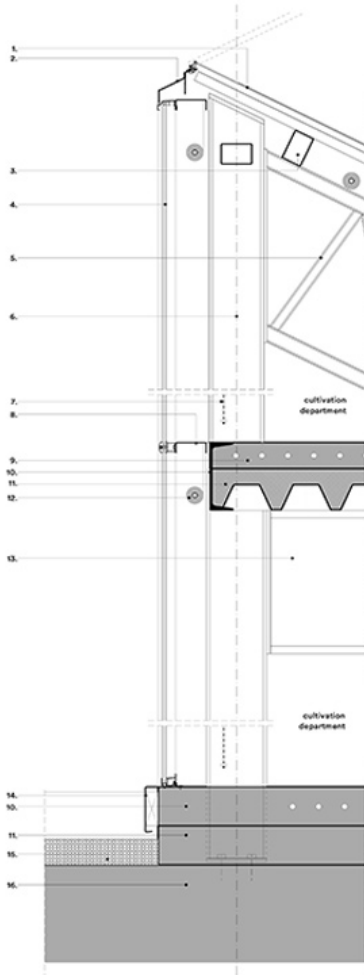


Section of cultivation departments

Vertical farm Beijing is a proud sculpture of steel and glass that underscores its agricultural and public function. The building consists of a particularly slender steel structure that stands out against the Beijing sky with a series of transparent bay windows. The entrance side looks special with its expressive, faceted facade in transparent glass.

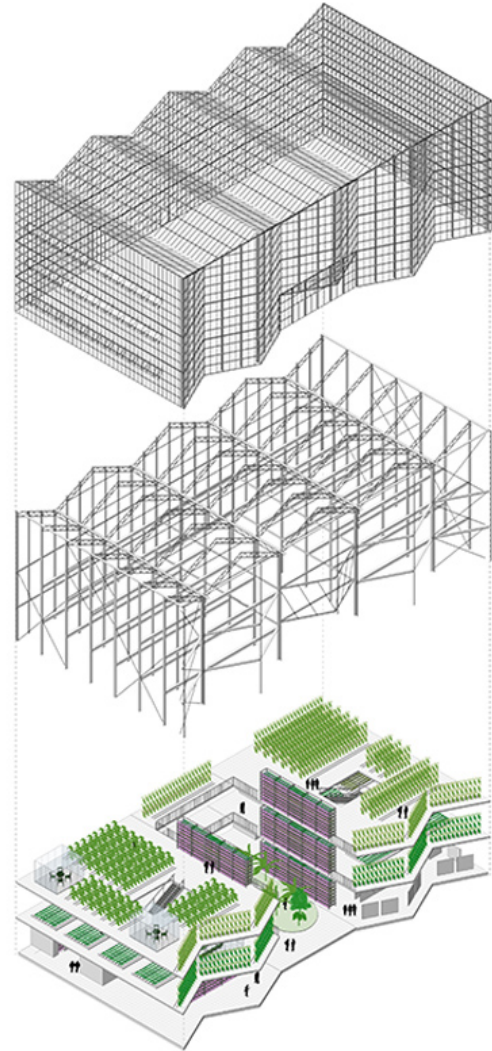
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1. polycarbonate roofing
2. folded aluminum plate
3. steel square tube 120x80mm
4. insulated glass 25mm
5. steel truss
6. steel column HEA 240
7. fall-through protection steel mesh
8. steel purlin 120x40
9. concrete finishing
10. UNP 250
11. steel concrete construction floor
12. facade screen
13. steel beam HEA 150
14. folded aluminum cover
15. gravel stones
16. concrete foundation 250x600mm

West Facade Detail



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