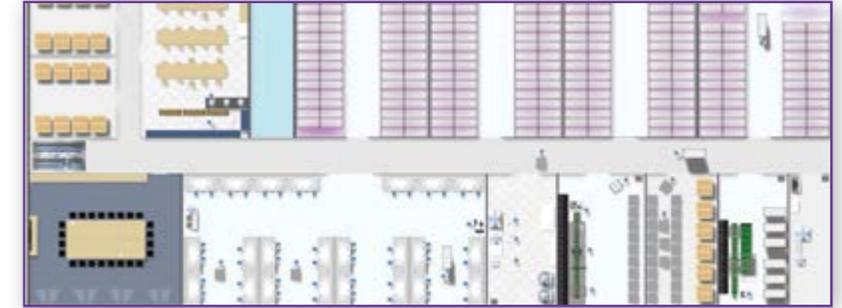




# Turn-key Multi Layer Solutions & Consultancy

## ViVi Turn-key factory.

ViVi provides you with a turn-key solution for a complete laboratory for any starting material (tissue culture, seed and cuttings) or leafy finished crop. ViVi is your partner for the smartest solution for multi layer growing.



## ViVi provides everything in:



Multi Layer Growing Chambers



Clean Rooms



Consultancy



Disposables



Workers Equipment



Tracking & Tracing

## Automation



Media Preparation



Filling & Seeding



Sealing



Transplanting

# A Complete layout...

## ...of your Multi Layer Plant Factory.

A plant factory has different specialized areas. ViVi offers a complete solution for each department.

### 1 Preparation area

In any kind of laboratory everything starts with a **clean operation**. ViVi supplies everything you need to clean and sterilize all materials in your lab.

### 2 Media Filling & Seeding Area

Both cups and trays can be filled with agar in the **media preparation** area. ViVi supplies unique media preparators with an unprecedented capacity. These media preparators connect to the filling lines to automate the filling process. Nutrition can be connected as well. Both **filling** and **seeding** can be automated, for processes with soil mixes.

### 3 Plant Material Process Area

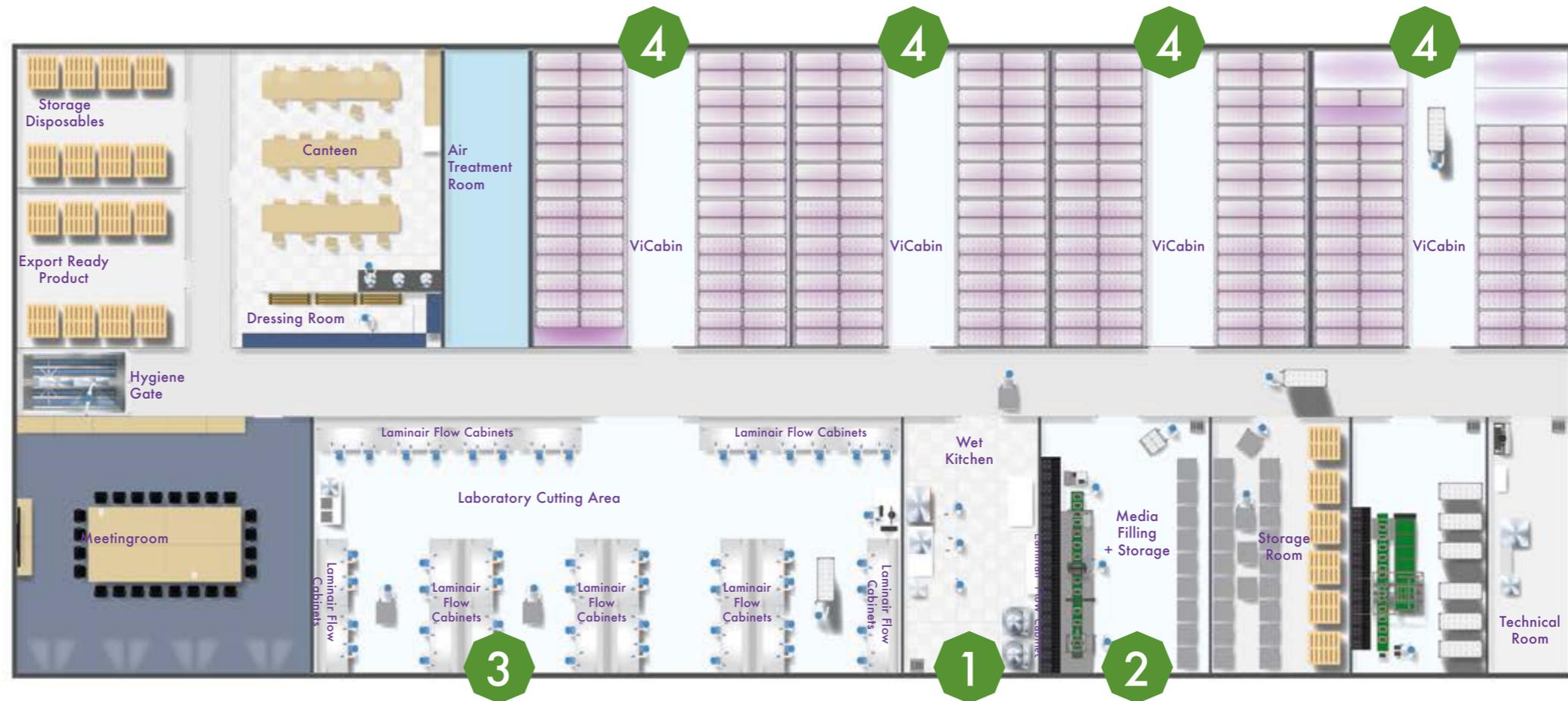
In the laboratory ViVi provides everything required for a smooth setup to **process your plants**. Laminar flow cabinets, equipment for the staff, trolleys for transport and all disposables. For a ViVi process a sealing machine is available as well.

### 4 Multi Layer Rooting & Hardening

In the fully controlled growing chamber the ViTray helps you **root** and **harden** your plants. The ViTrays hold substrate in which the plants can grow roots. The plants can harden in the ViTray in the cell as well, via the ViVi micro perforation. ViVi supplies both the automation for the filling of the trays and the complete growing chamber.

### 5 Transplanting for greenhouse

When the plants are rooted and hardened they can be **automatically transplanted**. ViVi supplies a transplanter for a fully automated process.





## ViVi Expertise Knowledge.

Every plant has a specific optimal growing protocol. ViVi offers consultancy for the development of protocols for your plants. Once your lab is up and running, we can also provide training and consultancy to ensure a great start and a sustainable production.

ViVi develops growing methods for tissue culture, seed, cuttings and companies that produce fresh produce. ViVi can be applied for R&D purposes and commercial production purposes. ViVi supplies everything for a turn-key multi layer setup, but we take our service to the next level. Besides all the hardware and software, we also provide expert consultancy to start and sustain your operation.

### Protocol development

Every plant has a specific optimal growing protocol. ViVi offers consultancy for the development of protocols for your plants. A protocol will help you determine:

- Which growing medium is best for your product?
- What is the best multiplication method?
- Which cups and trays are optimal for your product?  
Which heights, cavities, form, etc?

Once your lab is up and running, we can also provide training and consultancy to ensure a great start and a sustainable production.



ViVi offers solutions for:



TC labs  
(TC and somatic embryo's)



Young plant producers  
(seed or cuttings)



Breeding and  
Screening departments



Finished Plants  
(leafy products)



## TC Labs.

ViVi offers a wide range of products to build a complete cutting edge TC laboratory. We provide everything for a regular lab: growing chambers, clean rooms, automation, workers materials, disposables and **consultancy**.

We also provide everything for the unique ViVi method for great efficiency and added value in the final stage of the growing cycle. The ViVi method can create a new opportunity for your company. With this method you can supply your TC young plants, **rooted and hardened** to your customers. The last step of the growing process is being transferred to the ViTray with sterile soil plugs, covered by our patented micro perforated foil. Due to the fact that these plugs are sterile, the product can now grow roots in the growing chamber and you can supply hardened plants. The ViTray is designed so that the transplanting of the plugs to a bigger cell can be automated.

### For TC labs ViVi supplies:

- ✓ Complete Laboratory setup (Growing Chambers, Climate control, Trolleys with LED)
- ✓ Automation
  - Media Preparation
  - Sealing
  - Filling & Seeding
  - Transplanting
- ✓ Packaging for the ViVi method
- ✓ General lab disposables
- ✓ Tracking & Tracing Software
- ✓ Protocols/Training/Consultancy



## Breeding and Screening.

The ViVi method offers many advantages for the breeding and screening process. The **ViTray helps you gain a perfect test result**, since the tray is sealed from the top, guaranteeing optimal controlled conditions.

Also uniquely supplied by ViVi is the 'Robot Seeder'. The Robot Seeder can pick and place difficult to handle individual seeds efficiently and quickly. One of its primary uses is for processing smaller batches of seed. The Robot Seeder can fill a complete tray while using seed from different batches.

Using the software of the Seeder, the placement of the seeds can be programmed, stored and printed on the tray. This makes it possible to achieve consistent continuous sowing with recorded tracking information.

The Seeder can place all tests in a tray after which the tray can be sealed and printed with the required information.

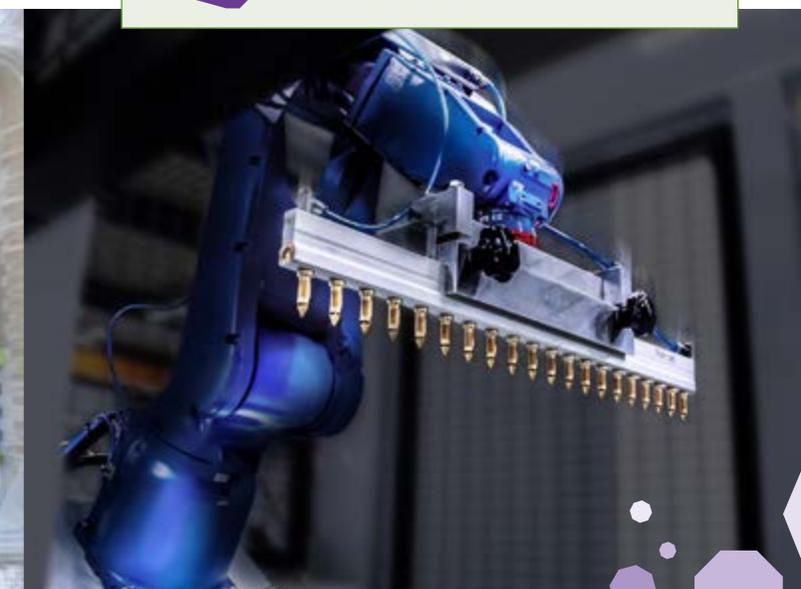
Another highly specialized technique is available with ViVi: automation for somatic embryo's, please contact our sales team for more information.

## For Breeding & Screening facilities ViVi supplies:

- ✓ Complete Laboratory setup (Growing Chambers, Climate control, Trolleys with LED)
- ✓ Somatic Embryo production
- ✓ Automation (Media Preparation, Robot Seeding, Tracking & Tracing software and tray filling)
- ✓ Packaging for the ViVi method
- ✓ Tracking & Tracing Software
- ✓ General lab disposables
- ✓ Protocols/Training/Consultancy



Tracking  
& Tracing



## Young plant production.

Many young plants can now be grown commercially in a multi layer setup. We can provide you a turn-key laboratory to grow your young plants from seed or to root your cuttings. The ViVi method helps you do this efficient and completely controlled. The micro perforated foil protects your valuable plants, tray by tray. If anything goes wrong inside a tray, this has no effect on the rest of your production. ViVi offers a fully automated setup, all required disposables and consultancy to get you started perfectly.

### For Young Plant production facilities ViVi supplies:

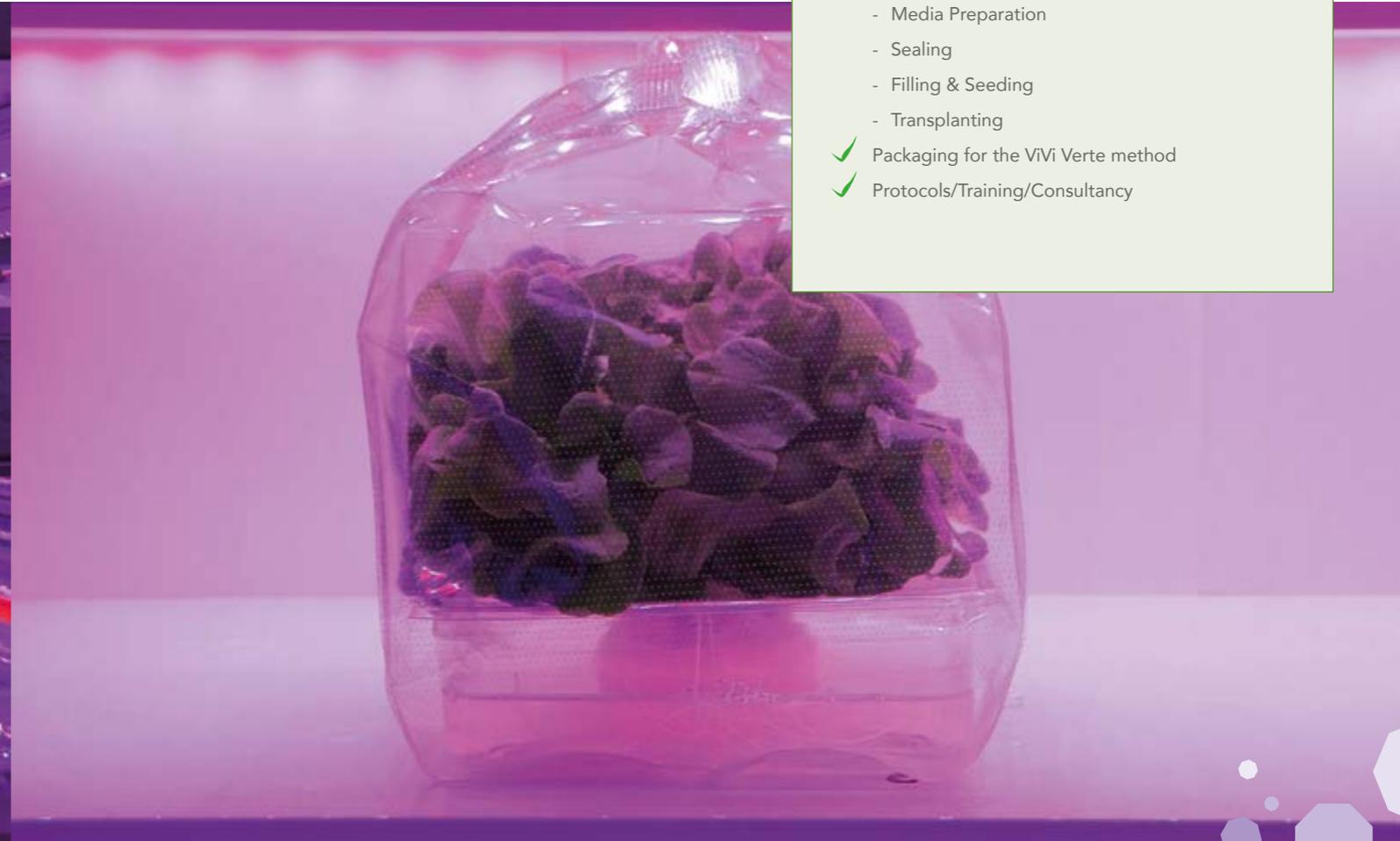
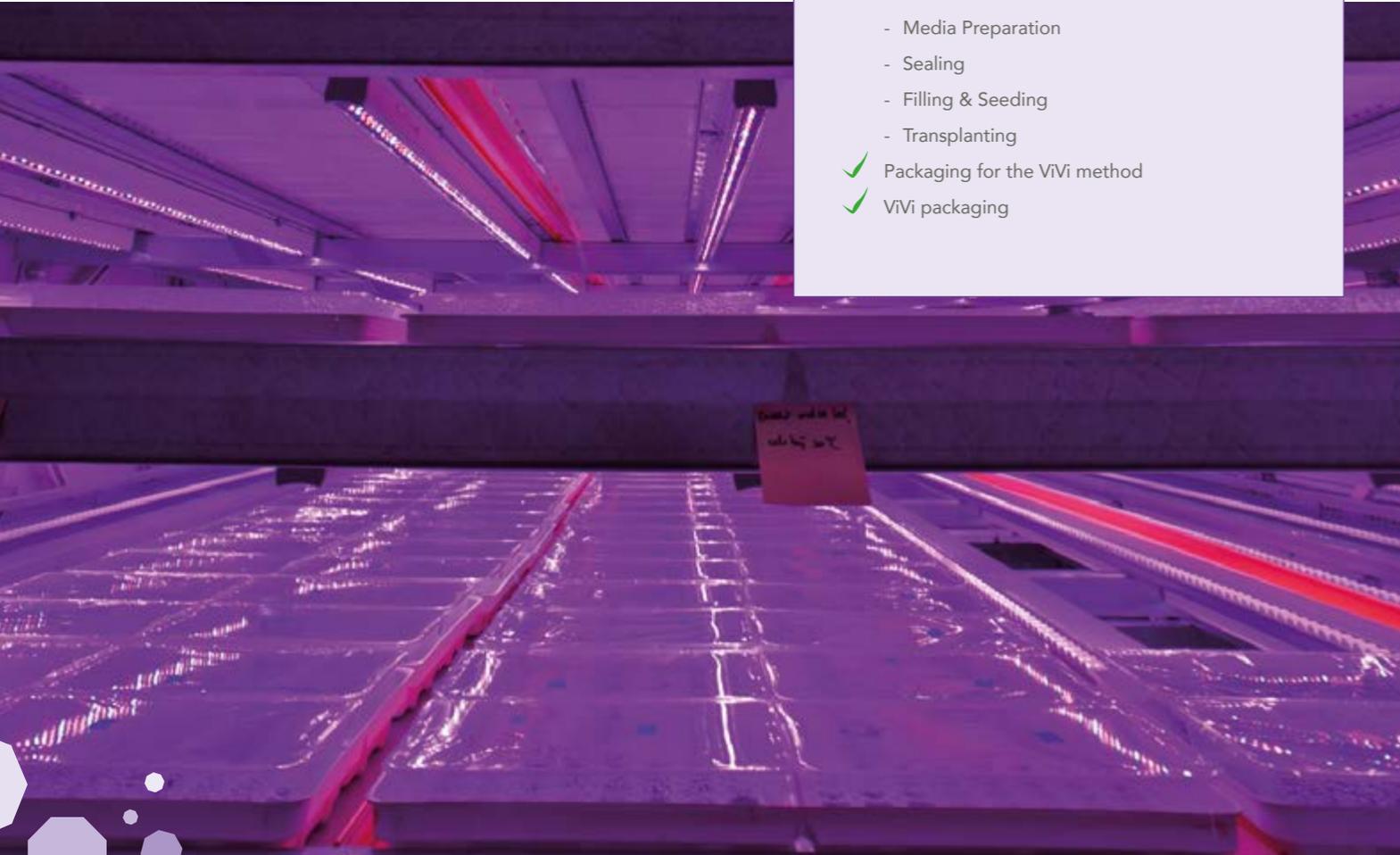
- ✓ Complete Laboratory setup (Growing Chambers, Climate control, Trolleys with LED)
- ✓ Automation
  - Media Preparation
  - Sealing
  - Filling & Seeding
  - Transplanting
- ✓ Packaging for the ViVi method
- ✓ ViVi packaging

## Full Crop Production.

The ViVi Verte system offers you opportunities to grow a finished crop in its end packaging. Different leafy vegetables can be grown in the ViVi Verte system. First the young plants are grown in the ViTray with foil protection and after that the young plants are transplanted in the end packaging. This end packaging consists of the ViVi micro perforated foil and the young plant can grow to its full potential in this bag. The bag can be supplied to the retailer with marketing labels. For more information please check our ViVi Verte brochure our website.

### For the production of finished crop ViVi offers:

- ✓ Complete Laboratory setup (Growing Chambers, Climate control, Trolleys with LED)
- ✓ Automation
  - Media Preparation
  - Sealing
  - Filling & Seeding
  - Transplanting
- ✓ Packaging for the ViVi Verte method
- ✓ Protocols/Training/Consultancy





## The ViVi Method.

ViVi offers a revolutionary method to grow all kind of plants. Reliable, local and in a sustainable way by reducing the risks associated with growing plants in a conventional greenhouse. With the ViVi growing system, the future is here. A fully controlled, fully automated system in which all focus can go out to selecting the best starting material and growing protocol.

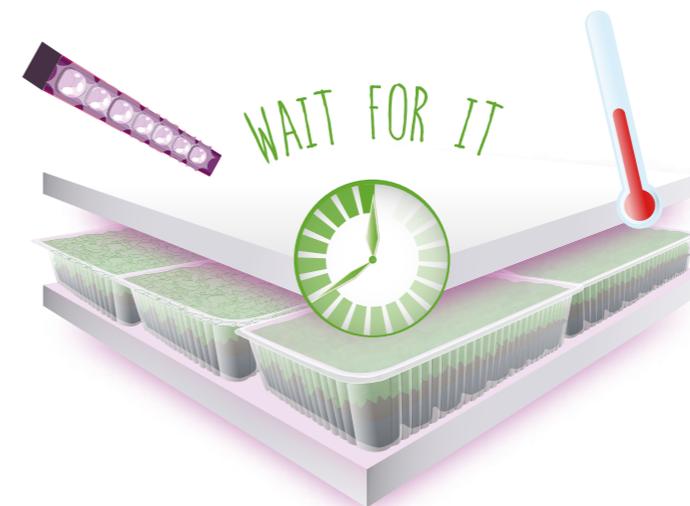
The ViVi growing method has captured most of its technology in the innovative semi-closed packaging in which the plants are grown: one tray sized. The ViVi products are the greenhouses of the future: small, fully controlled greenhouses.



Fill it



Seal it

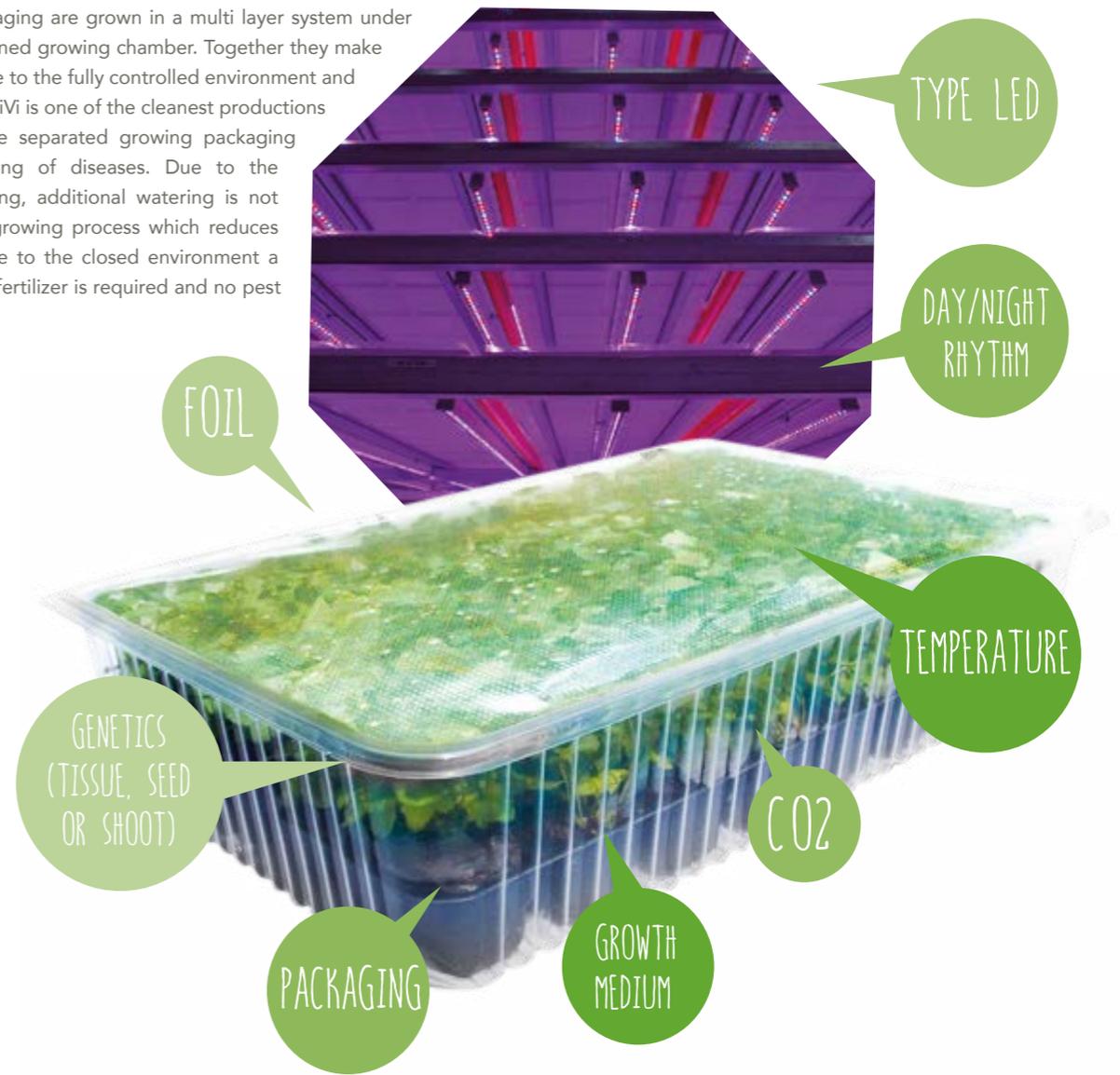


Harvest it





The plants in the packaging are grown in a multi layer system under LED lights in a conditioned growing chamber. Together they make a factory for plants. Due to the fully controlled environment and the sterile conditions, ViVi is one of the cleanest productions methods available. The separated growing packaging precludes the spreading of diseases. Due to the design of the packaging, additional watering is not necessary during the growing process which reduces risks tremendously. Due to the closed environment a minimum in water and fertilizer is required and no pest control is necessary.



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