



Instituut voor Landbouw- en Visserijonderzoek

## FOOD PILOT: from idea to product

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### Flanders' FOOD – ILVO-T&V Mission of the Food Pilot

Give the opportunity to food companies, knowledge institutions and non-food companies

- to perform tests under semi industrial conditions on a limited amount of product without needing to halt own production lines
- to stimulate innovation within companies


and thus

- to improve the valorisation of primary agricultural products



### Flanders' FOOD – ILVO-T&V Objectives of the Food Pilot

- **Openness:**
  - Food, feed, non-food (i.e.: (para)pharmaceutical sector)
  - Entire agro-food sector
- **Cooperation with:**
  - ILVO laboratories and scientific expertise
- **Complementarity with other institutes:**
  - Collaborations with VITO, universities and colleges
- **Possibility for training: emphasis on product knowledge**
  - Universities, colleges, IPV, VDAB
- **Versatile equipment: multifunctional devices**
  - Simulate full production line



### Food Pilot


#### From idea to product

## Benefits of pilot testing




### Benefits of pilot testing

- **Small scale pilot projects under industrial conditions:**
  - Limited amount of raw material needed
  - Flexibility (various tests in succession or simultaneously, different combinations of equipment)
- **Scientific support**
  - Accredited laboratories
  - Opinion of food scientists and technologists
- **Confidentiality**
  - In writing/oral
  - Planning



### Benefits of pilot testing

- **Validation and upscaling of a laboratory preparation**
  - Verify lab results on a semi-industrial scale
- **Product development and optimization: quality improvement**
  - Test newly listed ingredients
  - Test functional properties of ingredients used
- **Feasibility study**
  - Small scale testing of productions or equipment before large scale production or investment
- **Preparation of test samples**
  - Functional ingredients in an end product
  - For customers, consumer testing, clinical trials, etc.



### Available technologies Drying

- **Evaporator:**
  - Schimdt : falling film evaporator (2-stage)
  - Use: removing moisture from products in a vacuum
- **Spray Dryer (atomiser) + sampler with filling unit:**
  - Anhydro - Laarman
  - Use: drying of liquid food products without pieces




### Available technologies Drying

- **Freeze drying installation:**
  - Martin Christ
  - Use: freeze drying of both solid and liquid products in bulk and in many types of packaging




### Available technologies Heating

- **Pasteurisation:**
  - Pasilac Therm
  - Use: pasteurisation of liquid food products in combination with:
    - Centrifugation
    - Bactofugation
    - Homogenisation
- **UHT-installation**
  - APV
  - Use: heat treatment of liquid food products





### Available technologies Heating

- **Horizontal autoclave**
  - JBT
  - Use: sterilisation/pasteurisation of canned tins, pouches/bags, plastic bottles, glass jars and bottles, sealed scales
- **Extrusion**
  - Cletral : Double screw co-rotating
  - Use: design technique for starch and protein rich foods





### Available technologies Heating

- **Bain marie**
  - Verno/Vantametal
  - Use: Fermentation of liquid products, melting of solid high fat products
- **Cooking kettle**
  - Firex
  - Use: cooking of different food products





### Available technologies Heating

- **Vacuum cooking cutter**
  - Seydelman
  - Use: meat products, sauces, grinding of all kinds of food products
- **Reduce, mix and homogenize device:**
  - Stephan Universal Machine
  - Use: production of different food products





### Available technologies Heating

- **Combisteamer**
  - Convotherm
  - Use: steaming, baking and frying of food products
- **Multifunctional chamber**
  - Gernal
  - Use: smoking, baking, roasting, grilling, thawing, drying of various products



### Available technologies Filling and packaging

- **Vacuum machine**
  - VC999
  - Use: vacuuming and fumigation of food products
- **Packaging machine + gasmixer**
  - VC999
  - Use: Airtight packaging or after fumigation (MAP) sealing of food products



### Available technologies Filling and packaging

- **Cans closing machine**
  - Indosa
  - Use: closing of cans from tin or cardboard with different dimensions
- **Multifunctional dosing device**
  - Fancy Food
  - Use: dosing of liquids and thick products with or without pieces, directly from a tank or through a funnel



### Available technologies Filling and packaging

- **Filling machine**
  - Vemag
  - Use: filling of pastries, meats, potato products, fresh cheese
- **Clip machine**
  - Poly-Clip
  - Use: closing of products that are filled in intestine



### Available technologies Mixing and reducing

- **High pressure homogeniser (until 1200 bar)**
  - Gea Niro Soavi
  - Use: improving emulsion stabilities of liquid products
- **M4E test unit**
  - M4E
  - Use: create stable emulsions, disperse powders without lumps and shear



### Available technologies Mixing and reducing

- **Tumbler**
  - Ruhle
  - Use: dry salting, marinating, mixing and tumbling of food products
- **Cubes – strips cutter**
  - Treif
  - Use: cutting (cubes or strips) of food products
- **Cutting machine**
  - Bizerba
  - Use: cutting food products



### Available technologies Mixing and reducing

- Meat mincer
  - Seydelman
  - Use: grinding, fine mincing or mixing of food products
- Stephan device
- Vacuum cooking cutter



### Available technologies Cooling and freezing

- Cryogenic freezer
  - Type 1-car chamber
  - Use: monitored cryogenic freezing, chilling and thawing of food products
- Continuous freezing device (ice cream)
  - Tetra Hoyer
  - Use: Aerating and freezing of ice cream



### Available technologies Various

- Brine injector
  - Günther
  - Use: injection of meat, poultry, fish, cheese and fruit infusion
- Clima chamber
  - Reich: 1-car chamber
  - Use: drying and maturing processes of various products, as well as preservation tests with fumigation



### Available technologies Various

- Flake Ice Machine
  - Maja
  - Use: production of dry ice flakes for application in all kinds of preparations
- Pumps
  - Sinus pump
  - Membrane pump



### Available technologies Various

- Cheese tank:
  - Van 'T Riet
  - Use: preparation of different types of cheese



### Available technologies [www.foodpilot.be](http://www.foodpilot.be)

The screenshot shows the FoodPilot website interface. At the top, there's a navigation menu with 'HOME', 'OVER DE FOODPILOT', 'CONTACT', and 'NUTRITION'. Below the header, there's a main content area with a large image of a building and the FoodPilot logo. The text below the image reads: 'Overzicht van alle technologieën'. There are three columns of text, each with a small image of a piece of equipment. The first column is titled 'Bevat de technologieën', the second 'Bevat de technologieën', and the third 'Bevat de technologieën'. At the bottom, there are three columns of text, each with a small image of a piece of equipment. The first column is titled 'Bevat de technologieën', the second 'Bevat de technologieën', and the third 'Bevat de technologieën'.



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**Thanks for your attention and interest!**

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