



Established January, 2013

History

- **2009:** VIB decides to explore potential use of camelid Agrobodies in crop protection. Peter Verheesen, expert in camelid antibodies, starts initial experiments in Jan Steyaert's VUB lab. The efforts are further supported by an IWT-OZM grant for Peter Verheesen.
- **October 2010:** Work on assays and trials is expanded; Inge Van Daele joins Peter Verheesen.
- **2012:** The laboratory activities moved to ILVO Plant in Melle.
- **February 2012:** VIB decides to establish a spin-off company and Marnix Peferoen, currently CEO, is attracted to support the effort.
- **January 2013:** Incorporation of the AgroSavfe company.
- **February 2013:** AgroSavfe offices are opened in the Bio-incubator on the Ghent technology park.
- **April 2013:** AgroSavfe laboratories are fully operational in the Bio-incubator.

AgroSavfe NV

Bio-incubator

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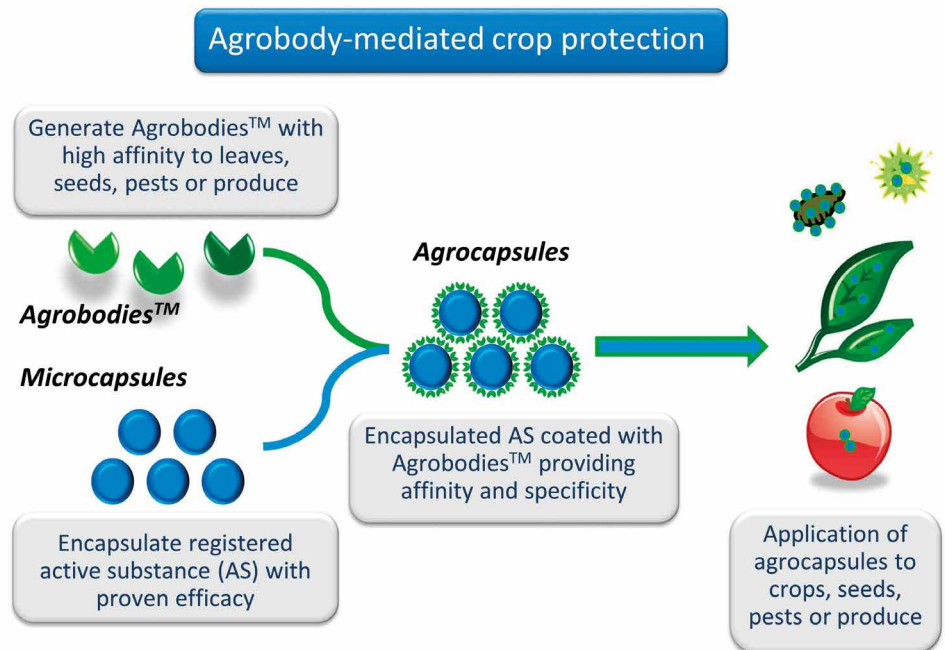


fig 1: Agrocapsules are made by coupling selected agrobodies to microcapsules containing active substances to protect seeds, crops and produce from weeds, pests and diseases.

Development of Agrobodies™ based crop protection products

Crop protection is essential for an ever intensifying agriculture. A major challenge for the sector is the strong pressure from (inter)national authorities, food processing industry and retail to reduce the use of crop protection products. **The solution is the development of more effective and sustainable crop protection products.** Driven by steeply rising regulatory hurdles and expenses when bringing novel active substances to the market, innovation in the sector is shifting to novel formulations of existing active substances.

AgroSavfe employs its proprietary **Agrobodies™ technology platform** to develop superior crop protection products, based on active ingredients with proven efficacy, in combination with Agrobodies™ as formulation agents. Agrobodies™ are **derived from camelid antibodies** and can be generated against virtually any target, to which they bind with high affinity and specificity. Agrobodies™ are easy and cost-effective to manufacture and are intrinsically very stable. Agrobodies™ directed against crop produce, leaves, seeds, pests or particular structures thereof enable targeted delivery and retention of the active ingredient at or near its site of action. **Targeted delivery and improved retention of Agrobodies™-based crop protection products allow for reduced application dosage and for extended performance with reduced application frequencies (figure 1).**

AgroSavfe: the result of years of research

AgroSavfe is a new start-up from VIB (Flanders Institute for Biotechnology), established to develop more sustainable crop protection products based on its proprietary Agrobody™ platform. A syndicate of life sciences investors is backing the company. A highly experienced team warrants its successful roll-out. CEO Dr. Marnix Peferoen brings over 25 years of experience in agricultural biotechnology business. Scientific founder Dr. Peter Verheesen has built more than 12 years expertise with the Agrobody™ technology platform in diverse industrial settings. Since 2009 Peter worked for VIB in the VUB laboratory of Prof. Jan Steyaert focusing on applications of single domain antibodies in agriculture, forming **the basis of AgroSavfe's proprietary Agrobody™ technology platform that is now used to develop crop protection products using Agrobodies™ as formulation agents.**

The Agrobody™ platform and its applications

AgroSavfe is establishing the Agrobody™ Technology platform based on of the antigen-binding domain of camelid heavy chain antibodies. Camelid species have, in addition to conventional antibodies, heavy chain antibodies composed of homodimers of two heavy chains only (Hamers-Casterman et al., 1993, Nature 363: 446-8). These heavy chains are composed of three domains. The functional antigen-binding domain, called **VHH or Agrobody™**, is a small 15kDa protein with excellent stability, binding with high specificity and affinity to its target (figure 2). Recombinant antibody engineering using immune and non-immune repertoires is used to generate Agrobodies™ to very diverse targets. Agrobodies™ are encoded by single genes, can be easily cloned, possess good solubility, can be efficiently produced in micro-organisms, are stable at high temperatures or mild concentrations of detergent and have the capacity to functionally refold after thermal, chemical or pressure denaturation. These qualities, the ease of generating Agrobodies™ with desired affinity and specificity and their low cost of manufacture make them preferred molecules for agrochemical formulations.

The Agrobody™ platform allows for a **rapid and efficient selection of Agrobodies™ that bind to leaves, seeds, fruits, and pests to prevent and control weeds, pests and diseases.** Agrobodies™ can be used in formulations to improve retention and targeting of crop protection products to the site of action for reduced application dosage and for extended performance with reduced application frequencies. Targeted delivery and improved retention of Agrobody™-based crop protection products provides thereby for **increased performance, sustainability and convenience of crop protection products.** AgroSavfe is exploring the Agrobody™ platform for a paradigm shift in crop protection by effectively protecting crops with **reduced doses** of agrochemicals and by providing exceptionally **target-specific crop protection**, while **minimizing impact** on the environment, growers, processors and consumers. Agrobodies™ are protected as composition of matter by an **extensive portfolio of granted patents** and a growing number of pending patent families are covering diverse applications of Agrobodies™ in crop protection.

Agrobodies™

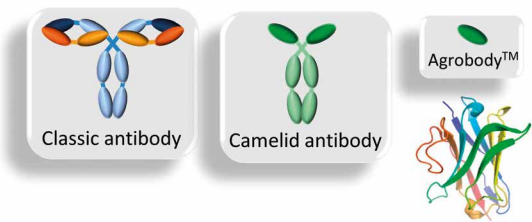


fig 2: Agrobodies are derived from camelid antibodies.



The AgroSavfe start-up team (from the left to the right): Marnix Peferoen (CEO), Inge Van Daele, Peter Verheesen and Inge Roman

'Who could have imagined that the observation by Professor Hamers and his team at VUB that camelids have a simpler type of antibodies, would be the basis for innovations in the area of health care, industrial applications and now also in agriculture? AgroSavfe is yet another example of VUB's and VIB's unique talent for combining scientific excellence with creative entrepreneurship.'

Marnix Peferoen, CEO AgroSavfe