

Healthcare industry BW

PathoScan: Sowing clean seeds - and reaping a rich harvest

The screening of seeds is becoming more and more important in order to combat crop losses caused by pest infestation. Dr. Frank Brändle and Dr. Marco Thines, managing directors of PathoScan GbR in Hohenheim, have therefore developed a PCR-based test system, which allows the detection of fungi and bacteria in seed at very early stages. The test system will be internationally patented in the near future.



Dr. Frank Brändle Chief Executive Officer of PathoScan (Photo: PathoScan)

While the largest seed bank on the arctic island of Spitsbergen is being filled with seeds from all over the world to safeguard the food supply of mankind in the future, two biologists from Hohenheim have spent the last two years working on securing today's crop and vegetable harvests. "Although more and more food needs to be produced, more and more agricultural land is disappearing", says Dr Frank Brändle, managing director of PathoScan GbR, a company specialising in innovative pest diagnostics. "Consequently 'clean' seeds become increasingly important". In order to combat annual harvest losses caused by pests such as downy mildew, bacteria or fungi, costing billions of Euros, Dr. Frank Brändle and Dr. Marco Thines have developed a test system in cooperation with their mentor, Prof. Dr. Otmar Spring of the Department of Botany, University of Hohenheim, which allows the early identification of pathogens in infected seeds, seedlings, irrigation water and soil samples using molecular biological methods. The accuracy of this method is 100-fold higher than conventional test methods.

Innovative pest diagnostics

Since the company's founding in 2006, PathoScan GbR has launched a number of pest detection systems, for example for basil, parsley and spinach. Clients include vegetable farmers and also pest management consultants, who advise agricultural businesses on all aspects of crop protection. PathoScan also participates in research projects regarding the organic farming of lamb's lettuce and cress and cooperates with the Dienstleistungszentrum Ländlicher Raum (DLR) in Rheinland-Pfalz and the Research Institute of Organic Agriculture (FiBL) in Switzerland.



Downy mildew by lettuce (Photo: Bayerische Landesanstalt für Landwirtschaft)

Until now, the start-up company has been financially secured through the Baden-Württemberg "Young Innovators" funding programme, which supports scientists with a PhD in the development of innovative, marketable products and methods, helping them to start their own business. The company is now on the verge of financial independence. "The business plan has been drawn up and the search for investors and premises has begun", says Frank Brändle. He hopes that PathoScan will manage without financial support by November 2008 at the latest. He would also like to find a business location in one of the technology parks of the STERN BioRegion. Two Business Angels have already been won over –introduced through IBH (Innovation und Bildung Hohenheim GmbH).

Whether seed producer or eco business, the chances for entrepreneurs in the agro-business sector are better than ever. These entrepreneurs also see great potential in the market for ornamental plants. "Some production locations for seeds and seedlings change every year. But new locations also mean a higher risk of infection with unknown diseases. Consequently, the screening of seeds is becoming more and more important", explains Dr. Frank Brändle. "Our detection system also serves as an aid to decision-making, particularly when aspects of seed disinfection are concerned".

In February 2007, Dr. Frank Brändle and Dr. Marco Thines have filed the patent application for the PathoScan test systems with the European Patent Office. The international patent application according to the Patent Cooperation Treaty, PCT, has also already been filed. "We hope to be indispensable for the quality management of seed producers in ten years time", is the business vision of the PathoScan-founders.

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Since March 2009 PathoScan GbR operates under the name **IDENTXX GmbH**.

Press release

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