

Fungal pathogens of St. John's wort and anise

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Despite rising demand, medicinal plant cultivation in Germany has been stagnating for years. The increasing demand is currently covered to approx. 85-90 % by imports. To promote German medicinal plant cultivation and to ensure product quality, the Junior Research Group Medicinal Plants was established at the Julius Kühn Institut. In the main topic "seed-borne and leaf pathogens", the focus is on the investigation of fungal pathogens, especially on St. John's wort (*Hypericum perforatum*) and anise (*Pimpinella anisum*), and the development of alternative strategies for their control. Over a period of three years (2020-2022), the currently occurring fungal pathogens in Germany (and Austria) were investigated in an extensive screening. For this screening, a total of 41 seed batches and 35 plant samples of St. John's wort and anise were examined. 654 fungi were isolated and 320 of them were characterized morphologically and by DNA barcoding. 61 isolates were included in the institute's strain collection. The St. John's wilt pathogen is a severe problem on *H. perforatum*. In the course of the project, the pathogen was taxonomically reassigned. In addition, a rapid and sensitive detection method using real-time PCR was established and verified for this pathogen. This is now available for routine testing of *Hypericum* seed and plants.

In anise different fungal pathogens led to serious infections. These are currently being investigated in more detail.