

*V. dahliae* für die angepflanzten Gehölze besteht. In der Rhizosphäre von 11 der 34 beprobten Gehölzen wurden u. a. *F. culmorum*, *F. sambucinum* und *F. oxysporum* nachgewiesen. Insgesamt wurden in 14 von 34 Erdproben (41 %) *Fusarium* sp. gefunden. Die vorliegenden Untersuchungen von Erdproben aus der Rhizosphäre von 34 Gehölzen auf einer ehemaligen Ackerbaufläche, die in 2009 mit Gehölzen bepflanzt wurde, zeigen ein hohes Inokulumpotential von *V. dahliae*.

**160-Adam, M.; Hallmann, J.; Heuer, H.**

Julius Kühn-Institut, Bundesforschungsinstitut für Kulturpflanzen

### **Bakterielle Bodenisolat mit antagonistischer Aktivität gegen den Wurzelgallennematoden *Meloidogyne incognita***

*Bacterial soil isolates with antagonistic activity against the root-knot nematode *Meloidogyne incognita**

Biological control is considered as an efficient method to control plant parasitic nematodes that are one of the most economically important pests causing severe damages and losses in a wide variety of crops worldwide. Also it is an alternative way to reduce chemical nematicides that are costly, harmful to natural enemies of nematodes, and hazardous to farmers as well as non-target animals. Our study aimed to evaluate the nematicidal activity of bacterial soil isolates, which were shown to antagonize fungal pathogens, against the root-knot nematode *Meloidogyne incognita*. A total of 50 isolates, mostly derived from a biological farm in Egypt, were screened for their antagonistic effects on juveniles *in vitro*. Culture supernatants of the bacteria killed J2 to different degrees after 72 h, with up to 89 % mortality for strain Mc5Re-2, while only 28 % mortality was observed for *E. coli* as a non-antagonistic control. Also egg development and hatching was inhibited. The best *in vitro* antagonists were tested in pot experiments. Tomato plants grown from seeds that were coated with bacteria exhibited a reduction of galling of up to 86 %, and egg-masses of *M. incognita* decreased up to 96 %. The best antagonistic activities were observed for isolates which were identified as *Bacillus subtilis*.

**161-Baklawa, M.<sup>1</sup>; Niere, B.<sup>2</sup>; Massoud, S.<sup>3</sup>**

<sup>1</sup>) Julius Kühn-Institut, Bundesforschungsinstitut für Kulturpflanzen / Technische Universität Braunschweig

<sup>2</sup>) Julius Kühn-Institut, Bundesforschungsinstitut für Kulturpflanzen

<sup>3</sup>) Suez Canal University, Egypt

### **Damage potential of different initial population densities of *Heterodera avenae* from Egypt on wheat varieties**

The cereal cyst nematode (CCN) *Heterodera avenae* has been reported on wheat in Egypt, where most of the wheat cultivars grown were found to be susceptible. The relation between the initial population density of CCN, growth and yield of wheat is important in determining the economic impact on this crop. There are no previous reports or observations on CCN damage to wheat in Egypt. Experimental studies are needed to establish the damage function and reproductive potential of a *H. avenae* population on different wheat varieties. The objective of this study was to examine the relation between increasing initial population densities (Pi: 0, 500, 1000 and 2000 second stage juveniles/100 ml soil) of a *H. avenae* population from Egypt and the responses of six different wheat cultivars (Aus 10894, Iskamish K-2-Light, Capa, Gemmeza 9, Sakha 93 and Sahel 1) with different levels of susceptibility to *H. avenae*. Data on final population densities, reproduction factor and the damage potential of *H. avenae* on several wheat cultivars growth parameters (shoot dry weight, root dry weight, spike weight and grain yield) are presented. All data are statistically analyzed and the means are compared using Tukey HSD test at  $P \leq 0.05$ . Regression analyses are performed on the data to describe the relation between the nematode reproduction factor and different plant growth parameters.

**162-Mwaura, P.<sup>1</sup>; Niere, B.<sup>1</sup>; Vidal, S.<sup>2</sup>**

<sup>1</sup>) Julius Kühn-Institut, Bundesforschungsinstitut für Kulturpflanzen

<sup>2</sup>) Georg-August-Universität Göttingen

### **Effect of *Ditylenchus destructor* and *Ditylenchus dipsaci* populations on potato damage**

Stem nematodes cause major economic losses in many crop plants. In the genus *Ditylenchus*, two species (*Ditylenchus destructor* and *D. dipsaci*) are of importance to potato. *Ditylenchus destructor* (potato rot nematode) and *D. dipsaci* (stem nematode) are subject to phytosanitary measures in many countries. Both nematode species are extremely polyphagous but tuber damage is mainly associated with *D. destructor*. However, under experimental