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Cold-tolerance and adaption of Pine wood nematode in China

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ABSTRACT:

Bursaphelenchus xylophilus (pine wood nematode, PWN) is a kind of plants parasitic nematode which survival in tropical and temperate zone, temperature is an important environmental factor affecting its spread areas. From 2012 to 2013, we collected PWN species from the different location which represent separately is the most north (Shannxi province), the most south(Guangdong province), and the middle part (Zhejiang and Hubei province) of distribution area of PWN in China to explore the influence of temperature on different geographical populations. Results showed that PWN are depressed by - 5°C for 24 h, there exists difference in survival of the PWN among different regions. The survival rate of Shannxi, Zhejiang, Hubei and Guangdong strain are 39.10%, 37.48% , 48.51% and 29.21% separately. In addition, the survival of pine wood nematode after cultivation of 20 d at 15°C was obviously higher than that cultivation of 20d at 25°C. In general, there exists some cold tolerance and adaption ability of PWN in China, which improved the survival of PWN in China, the deep reason that how low temperature cultivation improve the PWN survival would be further discussed in the future.

Key words: pine wood nematode, cold-tolerance, cultivation.

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