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Molecular mechanism of low temperature-induced lifespan extension in pine wood nematode (*Bursaphelenchus xylophilus*)

Wang Bowen

Northeast Forestry University, China

As one of the most dangerous invasive species in the world, Pine Wood Nematode (*Bursaphelenchus xylophilus*) is the causal agent of pine wilt disease which causes enormous ecological and financial losses by damaging the pine forest resources in Asia, North America and Europe. It has been reported that pine wood nematode has infested to the area where climate is relatively cold, and infestation area will continue expanding to colder regions of Asia and Europe. Our hypothesis is that low temperature-induced lifespan extension is not a passive thermodynamic process but an active one which can be promoted by genetic programs at low temperature. To decipher the low temperature induced lifespan extension in pine wood nematode, my group studied the molecular mechanism of this phenomenon. The results show that the cold induced lifespan extension is regulated by several genetic pathways including cGMP pathway. This study provided new ideas for the control of this devastating plant parasite nematode.

Biography

Wang Bowen is a Ph.D. candidate in Northeast Forestry University School of Forestry, China. He took a successive postgraduate and doctoral program in September 2015, doing research in molecular mechanism of anti-adversity ability of plant parasite nematode. He has published more than 10 papers in academic journals and has been one of the most excellent Ph.D. candidate in Northeast Forestry University.

834742898@qq.com

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