

Mini data sheet on *Thecodiplosis japonensis*

Added in 1999 - Deleted in 2004

Reasons for deletion:

Thecodiplosis japonensis has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2004, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List.

Thecodiplosis japonensis (Diptera: Cecidomyiidae) - Pine needle gall midge

Why	<i>Thecodiplosis japonensis</i> came to our attention because it appeared in a list of harmful organisms in the EU derogation (93/452/EEC of 15 July 1993) concerning <i>Pinus</i> plants from Japan.
Where	Japan, Korea Republic (including Cheju island), probably also in Korea Democratic People's Republic. <i>T. japonensis</i> was first described as a new species in Japan in 1955. In Korea, it was first observed in Seoul and Muan in 1929. Its distribution gradually expanded, and it is now distributed throughout the country. In 1990, it was first found on Cheju island. In 1995, approximately 212.000 ha of <i>P. densiflora</i> and <i>P. thunbergii</i> were infested.
On which plants	<i>Pinus</i> spp., mainly <i>P. densiflora</i> , <i>P. thunbergii</i> . In resistance tests: no eggs were laid on <i>P. koraiensis</i> and <i>P. strobus</i> needles, <i>P. virginiana</i> , <i>P. taeda</i> , <i>P. rigida</i> and <i>P. banksiana</i> did not show galls. But <i>P. sylvestris</i> , <i>P. nigra</i> , <i>P. resinosa</i> , <i>P. contorta</i> and <i>P. ponderosa</i> could be attacked.
Damage	In spring, emerging females lay eggs on developing needles. After hatching, young larvae crawl down to the leaf sheath and feed by sucking sap which induces the formation of galls. Large number of galls cause premature defoliation, resulting in simultaneous retardation in both terminal and cambial growth of the tree. <i>T. japonensis</i> overwinters in the soil where almost all larvae spin their cocoon. Adults can fly and be dispersed by the wind. Heavy attacks cause growth reduction. Tree mortality was observed in Japan and Korea. It is reported that in some years, 7000-8000 ha of attacked trees had to be cut.
Note	It can be noted that, in Europe, there is a similar species, <i>T. brachyptera</i> attacking mainly <i>P. sylvestris</i> , but which causes less damage (no tree mortality reported).
Pathway	Plants for planting, cut branches of <i>Pinus</i> spp. Soil.
Possible risks	<i>T. japonicus</i> is considered as one of the most destructive insect pests of pines, especially in Korea. Pines are important forest trees in the EPPO region. However, more data would be needed on the biology of the pest, particularly on its climatic requirements. Control measures (chemical or biological) are available, but more details are needed on their efficacy and they may be difficult to apply in practice for economic or environmental reasons.
Source(s)	Kim, K.S.; Hong, S.H.; Lee, S.K. (1987) [Resistance test of 13 pine species and race identification for the pine gall midge.] Research Report of the Institute of Forest Genetics, no. 23, 34-37. Lee, B.Y.; Chung, Y.J.; Park, K.N.; Byun, B.H.; Bae, W.I. (1997) [Distribution of the pine needle gall midge, <i>Thecodiplosis japonensis</i> Uchida et Inouye (Diptera: Cecidomyiidae), infestations in Korea: a brief history.] FRI Journal of Forest Science, no. 56, 13-20. Lee, B.Y. (1994) Ecological characteristics of the local pine needle gall midge, <i>Thecodiplosis japonensis</i> , population in Cheju Island. Research Reports of the Forestry Research Institute Seoul, no. 49, 65-72. Lee, S.G.; Kim, S.I.; Ahn, Y.J.; Kim, J.B.; Lee, B.Y. (1997) Effectiveness of carvacrol derived from <i>Thujopsis dolabrata</i> var <i>hondai</i> sawdust against <i>Thecodiplosis japonensis</i> (Diptera: Cecidomyiidae). Pesticide Science, 49(2), 119-124. Skuhravy, V. (1994) On the differences between <i>Thecodiplosis brachyptera</i> Schwäg. and <i>Thecodiplosis japonensis</i> Uch. et In. (Diptera, Cecidomyiidae) on the genus <i>Pinus</i> . Anzeiger für Schädlingskunde Pflanzenschutz Umweltschutz, 67(7), 156-160. A picture can be viewed on INTERNET http://www.best5.net/animal/