

Study of root and stem rot of black locust trees in

Tehran and Semnan provinces

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ABSTRACT

Since 1992, many black locust trees expressing dieback and wilt symptoms with stem and root rot, typical of *Phytophthora* disease, has been observed in afforestation, landscapes and parks in Tehran, Karadj and Garmsar.

The causal agents attack the junction of tap root and major roots and extend to basal part of the stem to induce necrosis of the inner bark usually spread circumferentially or develop as a girdling pattern.

Bark and wood tissues were collected from margins of discoloration on stems and roots and plated on *Phytophthora* semi selective medium.

Three species of *Phytophthora* namely *Phytophthora citrophthora*, *P. drechsleri* and *P. nicotianae* were identified and found to be Pathogenic on black locust seedlings.

References

- CRANDALL, B. S.; C. HARTLEY. 1938. *Phytophthora cactorum* associated with seedling diseases in forest nurseries, *Phytopathology*, 28: 358-360.
- CRANDALL, B. S. 1936. Root disease of some conifers and hardwoods caused by *Phytophthora cambivora* (*P. cinnamomi*) Plant dis. Repr, 20: 202-204.
- DAVIS, W. C., WRIGHT, E. & HARTLEY, C. 1942. Diseases of forest tree nursery stock. For. Publ. Civ. Conserv. CPS 9: 79-84.
- ERSHAD, D. 1971. Beitrag Zur Kenntnis der *Phytophthora*. Arten in Iran and ihrer

- Phytopathologischen Bedeutung. Mitt. biol. Bund. Anst. LD. Forstwirtschaft. 140.
- FREZZI, M. j. 1950. Especies de *Phytophthora* en la Argentina. (The species of *Phytophthora* in Argentina.), Rev. Invest. Agric., B. Aires, 4, 1:47-133.
- HO, H. H. 1981. Synoptic keys to the species of *Phytophthora* Mycologia 73: 705-714.
- HO, H. H. ZHUANG, W. Y. LIANG, Z. R. Yu, Y. N. 1983. *Phytophthora cinnomomi* on black locust (*Robinia pseudoacacia*) in Jiangsu province of China. Mycologia, 75: 881-886.
- HUANG, S. Y and WANG. J. G. 1983. Studies on stem rot of black locust. Scientia Silvae Sinicae. 19: 366-370.
- LAMBERT, E. B. 7 CRANDALL, B. S. 1936. A seedling wilt of black locust caused by *Phytophthora parasitica*, J. Agric, Res. 53: 467-476.
- MIRABOLFATHY, M. and ERSHAD. D. 1996. Isolation of *Phytophthora* species from trees and shrubs in landscape. Proc. of 12th iran. Plant Protec. Cong: 284.
- MIRABOLFATHY, M. and ERSHAD. D. 1991. Two species of *Phytophthora* as causal agents of *Robinia pseudoacacia* dampin-off. Iran. J. Plant Path. 27: 38-39.
- MITCHELL, D. J. and KANNWISCHER, M. E. 1978. Evaluation of selective media for the recovery of *Phytophthora parasitica* var. *nicotianae*. Phytophthora newsletter. 1978. No. 6:23-24.
- STAMPS. D. J.; G. M. WATERHOUSE; F. J. NEWHOOK and G. S. HALL. 1990. Revised Tabular Key to the Species of *Phytophthora* Mycol. Pap. 162.
- THORN, W. A. and ZENTMYER, G. A. 1954. Hosts of *Phytophthora cinnamomi* Rands. Plant Dis. Repr. 38: 47-52.
- WATERHOUSE, G. M. and WATERSON, J. M. 1964. *Phytophthora citrophthora* C.M.I. Descriptions of pathogenic Fungi and Bacteria 33.

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