CHAPTER ELEVEN

Fusarium Root Necrosis

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Fusarium root necrosis is caused by the fungus *Fusarium oxysporum*. It affects 2+0 bareroot Douglas-fir seedlings. To date it has been observed in only one nursery in southwestern Oregon. Above-ground symptoms first appear in the spring of the second year and include stunting, needle yellowing, and mortality (Figure 11-1). Infected seedlings show dead lateral roots and elongated dark brown or red-dish-brown lesions on taproots (Figure 11-2). Infected roots are not decayed and can be distinguished from roots affected by Phytophthora root rot by identifying the causal fungus in the laboratory. Damage is most severe near ends of beds and in wet areas. Leaving these areas unsown should lower the frequency of occurrence of the disease. Fungicides would likely be ineffective because they do not penetrate the soil well enough to protect roots.

Fusarium root necrosis symptoms appear:
2+0
Spring

Fusarium root necrosis may be confused with:
Phytophthora root rot

Figure 11-1. Field symptoms of Fusarium root necrosis on 2+0 Douglas-fir include necrosis, chlorosis, and stunting.

Selected references

Hamm, P.B.; Kanaskie, A.; Morgan, P.; Cooley, S.J. 1987. Root necrosis caused by *Fusarium oxysporum* on two-year-old Douglas-fir seedlings in Oregon. Plant Disease. 71:651.

Sinclair, W.A.; Hudler, G.W. 1980. Tree and shrub pathogens new or noteworthy in New York State. Plant Disease. 64:590-592.

Figure 11-2. Dead lateral roots and dark brown or reddish-brown lesion on taproot.