Abstract

Brown rot on peaches in Spain is caused by *Monilinia laxa* and *M. fructigena.* A third species, *M. fructicola* is included in the A2 list of quarantine organisms for Europe. European brown rot is usually initiated in spring as blossom blight from inoculum derived from overwintered mummified fruits, necrotic twigs and buds. Under favourable environmental conditions, blossom blight can progress to twig blight and branch canker, which serve as additional sources of secondary inoculum, and may eventually lead to latent infection of immature green fruit, and pre- and post-harvest brown rot on mature fruit. Post-harvest losses are typically more severe than pre-harvest losses and routinely occur during storage and transport. To evaluate the effect of climatic conditions on incidence of latent infection and brown rot by *Monilinia* spp. in peach and nectarine orchards, seventeen field experiments were performed in commercial orchards located in Ebro Valley, Spain, over six growing seasons from 2002 to 2007. Temperature, relative humidity, wetness duration, rain, and wind velocity were recorded over the crop season. The effect of climatic factors was analysed using a multiple regression model. The analysis indicated that temperature and wetness duration explained the incidence of latent infection and brown rot variation caused by these fungi. No latent infections were developed with T < 8ºC. More than 22 h of W were required in order to observe latent infections when T = 8ºC while only 5 h of W were needed with 25ºC to observe the same effect.