Abstract

Harpin was studied for its ability to induce resistance in apple fruit to blue mold caused by *Penicillium expansum* after harvest. Red Delicious fruit were harvested and sprayed with harpin at 0, 40, 80, and 160 mg/liter applied as a commercial formulation. At 48, 96, and 144 h after treatment, fruit were wound inoculated with spore suspensions of *P. expansum* at 103, 5 × 103, or 104 spores/ml. The diameters of the resulting lesions were directly proportional to the inoculum concentration. Fewer fruit treated with harpin became infected relative to the controls, and disease progress was considerably reduced. In a second experiment, apple trees of the cultivars McIntosh, Empire, and Red Delicious were sprayed with different concentrations of harpin 8 or 4 days before harvest. Fruit were harvested, wounded, inoculated with the fungus, and stored in a commercial cold room. Fewer fruit treated with harpin became infected compared with the controls. Greater control resulted from the higher concentrations of harpin, but no difference in control occurred as a function of interval between the spray time and harvest. Spraying apple trees with harpin a few days before harvest is a promising strategy for reducing blue mold decay in storage.