Phloem canker, better known as deep bark canker, has been projected to increase linearly with time in Butte, Colusa, Glenn, Stanislaus, Sutter, Tehama, and Yolo counties, with somewhat higher rates (about 10%) of increase in Fresno, Kings, Madera, Merced, Sacramento, San Joaquin, Stanislaus, and Tulare counties. By 1976, for the above northern counties, a 25% average disease incidence per orchard is projected, whereas a 30-35% disease incidence has been estimated for the above central and southern San Joaquin Valley counties. As the incidence increases, a potential exists for increasing the exposure of less susceptible varieties to the pathogenic organism and the possibility for genetic adaptation of the organism to varieties other than Hartley.

The disease incidence will continue to rise if spread of the disease is left unchecked. The disease-causing organism, Erwinia rubrifaciens, is primarily spread by the shaker during harvest. During the summer, diseased trees release an abundance of sap which contain millions of bacteria. The pads of the shaker usually get contaminated with this sap which is subsequently transferred to the next tree. Infection starts if wounds (tearing of the bark commonly seen during harvest) are made during shaking. Rain will expedite infection if it occurs within 1-10 days after wounding. Wounds are no longer susceptible to infection after 10 days.) Hartley walnuts, primarily 8-15 years old, are susceptible to infection from late February to early November, September-October being the prime times because these are the usual harvest months. Because pruning injury could also be potential sites of infection, it should be done in December and January only.

Disease symptoms may appear only at the site of infection (deep wounds into the phloem) but with time will develop elsewhere on the tree. Once trees are infected, the bacteria move systemically and remain latent in other parts of the tree. Therefore, surgical removal of visually infected areas only is a non-remedial measure. There are no ideal and practical systemic bactericides available presently.

The use of copper sprays (Kocide, Bordeaux, TC-90, etc.) are ineffective as a protectant or eradicant. Sodium hypochlorite (1 gallon to 4 gallons water containing 1% sodium lauryl sulfate or 0.1% Triton(R) CS-7) could be used for sterilizing shaker pads. Research on the use of antibiotics is being done. Agricultural grade Terramycin(R) (17% active oxytetracycline) and Agristrep(R) (21.2% active Streptomycin) in combination with 0.1% Triton(R), CS-7 is being tested. The use of this antibiotic combination may be useful as a protectant. Further field tests will be necessary to establish its efficacy.