Walnut blight, caused by *Xanthomonas juglandis*, continues to be a major disease problem on early blooming varieties. In spite of eighty years of research the disease cycle of walnut blight is not well understood. To develop and understanding of the epidemiology of blight, a selective medium has been developed for the isolation of *X. juglandis* from walnut tissue. This medium exploits the preferential utilization of starch as a primary carbon source by the pathogen. Methionine, glutamic acid and nicotinic acid are added to promote growth. Colonies appear in 48 to 72 hrs at 28°C and are readily identified as the pathogen hydrolyzes the starch producing a characteristic clear zone in the medium. The medium has been employed to study the role of dormant buds and catkins in the overwinter survival of the pathogen. Of the buds samples from Paynes and Ashleys, an average of 24.3% harbored blight bacteria (range 5 to 75%). Similarly, catkins were infested from 0 to 50% with an average of 14.2%. These data suggest that buds represent a major site for blight inoculum to survive. A vertical distribution study was conducted in a sprinkler irrigated walnut orchard. In this study 55.5% of the buds sampled low in the canopy were infested with bacteria, while only 22.2% up high harbored the pathogen. Similar results were observed in catkins. Sprinkler irrigations that send water into the leaf canopy serve to spread blight during the season and are important in the infestation of next season's buds and catkins. Limited studies were conducted on "non-blighting" walnut varieties (Hartleys and Franquette). Of the fifty buds and catkins sampled, none were found to be infested with blight bacteria. Perhaps the buds and catkins of these varieties do not permit the survival of the pathogen. Further studies are necessary to clarify this point.

Field plots in Contra Costa, Butte, and Tulare Counties are currently underway to evaluate the effectiveness of dormant season copper sprays in controlling blight. These plots will be evaluated next spring to determine what effect these copper treatments had on the inoculum in dormant buds and catkins. Ecological studies begun during the 1976-77 growing season are being repeated and expanded. The emphasis of these studies will be: (1) determine to what extent infested buds give rise to infected foliage that may serve as a source of primary inoculum in spring; and (2) what measures can be taken to reduce blight spread and tissue infestation during the growing season.