

Abstract

Johnson, D. A., Cummings, T. F., Hamm, P.B., Rowe, R. C., Miller, J. S., Thornton, R. E., Pelter, G. Q., and Sorensen, E. J. 1997. Potato late blight in the mid Columbia Basin: An economic analysis of the 1995 epidemic. *Plant Dis.* 81:103-106.

The cost of managing late blight in potatoes during a severe epidemic caused by new, aggressive strains of *Phytophthora infestans* in the Columbia basin of Washington and Oregon in 1995 was documented. The mean number of fungicide applications per field varied from 5.1 to 6.3 for early- and midseason potatoes, and from 8.2 to 12.3 for late-season potatoes in the northern and southern Columbia Basin, respectively. In 1994, a year when late blight was not severe, the mean number of fungicide applications per field made to early- and midseason potatoes was 2.0; whereas late-season potatoes received a mean of 2.5 applications. The mean per acre cost of individual fungicides applied varied from \$4.90 for copper hydroxide to \$36.00 for propamocarb + chlorothalonil. Total per acre expenses (application costs plus fungicide material) for protecting the crop from late blight during 1995 ranged from \$106.77 to \$110.08 for early and mid-season potatoes in different regions of the Columbia Basin and from \$149.30 to \$226.75 for late-season potatoes in the northern and southern Columbia Basin, respectively. Approximately 28% of the crop was chemically desiccated before harvest as a disease management practice for the first time in 1995, resulting in an additional mean cost of \$34.48/acre or \$1.3 million for the region. Harvested yields were 4 to 6% less than in 1994. The total cost of managing late blight in the Columbia Basin in 1995 is estimated to have approached \$30 million.