

ABSTRACT

Geary, B., Johnson, D. A., Hamm, P. B., and Cummings, T. F. 1999. Fungicide application for late blight management: A boom attached to a center pivot irrigation system. *Plant Dis.* 83:512515.

Chlorothalonil was applied to commercial potato fields of cvs. Russet Norkotah and Russet Burbank in replicated trials through either a center-pivot irrigation system or a spray-boomattached-to-the-pivot system. Water rates were 26,192 and 675 liters/ha for the center pivot and attached boom, respectively. Three crop canopy levels were sampled within 2 h and again after 6 days following fungicide applications made at 7-day intervals. Efficacy of the two application methods was tested by inoculation of individual excised leaves with an isolate of strain US- 1 or US-8 of *Phytophthora infestans* and by chemical residue analysis. Severity of late blight did not differ between the two fungicide application methods 2 h after application but, after 6 days, disease severity was significantly less on leaves where chlorothalonil was applied by the attached boom. Fungicide residues were three times higher on leaves where chlorothalonil was applied by the attached boom than with the center-pivot system. Significantly more disease occur-red on fungicide-treated and non-treated leaves inoculated with the US-8 than the US-1 strain. Severity of late blight on inoculated leaves was inversely related to the amount of chlorodialonil residue on leaves.