Swine Manure as a Fertilizer on Irrigated Potatoes

Karl Volkmar*, Debbie McLaren, Katherine Buckley
Agriculture and Agri-Food Canada
Brandon Research Centre
Brandon, MB R7A 5Y3
kvolkmar@em.agr.ca

Abstract The effects of in-crop manure on potato marketable yield and disease incidence were examined on clay- and sandy-loam soils in 1999 and 2000. Manure was injected alone or in combination with commercial fertilizer at rates of 0, 50, 150 and 200 kg ha to achieve a final rate of applied N by canopy closure. Hog manure applied shortly before row-closure had no significant adverse affects on potato yield or quality at any of the treatment rates and matched yields achieved using chemical fertilizer at equivalent rates on either the clay- or sandy-loam soils. In general, manured potato plants responded the same as those receiving the corresponding treatment of commercial fertilizer. Split applications of manure and fertilizer tended to increase yields on sandy soil compared to plots receiving only commercial fertilizer. On clay-loam soils yields tended to increase with rate of manure applied. At the highest application rate on clay-loam soil, manure treatment tended to increase the yield of larger, bonus-grade tubers. Manure treatments had no affect on incidence of common potato diseases, including scab, sclerotinia stalk rot, and rhizoctoniza canker. Analysis of the soil at harvest and of potato wash-water (water used to rinse freshly harvested tubers) failed to detect any faecal coliform bacteria, including *E. coli.* These results suggest possible advantages to potato producers capitalizing on the wastes of the hog industry.