B-30 Economic injury levels for the potato flea beetle, (Coleoptera: Chrysomelidae) on potato

D G Senanayake
Dept of Entomology, University of Manitoba, Winnipeg, Canada

The potato flea beetle, *Epitrix cucumeris* (Harris), is an abundant defoliator of potato. The adults are most injurious stage; they chew small round holes in the leaflets of potato plants. This feeding produ noticeable scars which sometimes penetrates the entrie thickness of the leaf. Larvae feed on rootlets, rarely damage tubers. This study quantifies the yield response of a potato cultivar Norland, exposed varying population densities of potato flea beetles.

Adults were maintained in field cages at constant multiples of naturally occurring densities for the dura of the growing season. In cages there was no significant reduction in yield even at twice the field dens There was a cubic polynomial relationship between % yield and peak adult density because at low in densities, the plants overcompensated or compensated for insect injury. This region of compensa included all densities observed in the field. No yield loss was observed up to 65 flea beetles per plant, t potato plant showed tolerance at low levels of defoliation. Above this density, yield was inver proportional to flea beetle density. For decision making, the relationship of percent yield to the numbe feeding punctures on the undersurface of a bottom leaflet at 2 weeks past first bloom was used. estimated range of economic injury levels for varying control costs and yield potentials is 67 - 75 feed punctures per leaflet.

Financial assistance by the Canada/Manitoba Subsidiary agreement on Value added Crop Production, Manitoba Department of Agriculture, and the Canadian Commonwealth Scholarship and Fellows Committee, is acknowledged.