DEVELOPMENT OF A SAMPLING PLAN FOR THE HOP APHID

L.C. Wright and W.W. Cone
IAREC Washington State University
Prosser, WA 99350

ABSTRACT

Two sampling methods were used due to the growth of hop vines: one before and one after the vines grew to the top of the trellis. Before the vines reached the top of the trellis, aphid numbers on main stem leaves generally increased with height on a vine. After the vines reached the top of the trellis, there was no clear relationship between aphid numbers on main stem leaves and height. However, there were fewer aphids on side arm leaves than on main stem leaves. Before and after the vines reached the top of the trellis, the number of aphids on main stem leaves at 2 meters was highly correlated with the mean number of aphids per vine. Sampling at this height is not only accurate but also relatively easy. Taylor's power law (log variance=a + b log mean) fit the data extremely well and was used to calculate the number of samples needed for the desired level of accuracy. A sequential sampling plan which can reduce the number of samples was also constructed using Taylor's power law.