Resistance Management

Natural variation in baseline data - when do we call a new sample "resistant"?

Lukas Schaub[1], Sylvain Sardy[2] and Gorana Capkun[3]
[1]Federal Research Station for Plant Production, Changins, Nyon, Switzerland
[2]Federal Institute of Technology, Lausanne, Switzerland
[3]Federal Institute of Public Health, Bern, Switzerland

Abstract: Mortality of pear psylla *Cacopsylla pyri* to amitraz was studied by means of bioassays. Variation between samples, temporal variation within the season in one orchard, and spatial variation between Swiss regions were considered. Variation between samples was large enough to produce different Probit functions and LC_{50} values. Temporal and spatial variations were too small to indicate resistance. Prediction intervals of the pooled functions using bootstrapping were calculated to determine if future samples would come from a population with decreased sensitivity. Probabilistic criteria on the population level were proposed for resistance.

'98 orchards using MD still spray.
14% No spray 36% 1 spray 50% >1 spray