Gypsy Moth

Lymantria dispar (Linnaeus)
Lepidoptera: Lymantriidae

Gansner, D. A.; Herrick, O. W.; Ticehurst, M. 1985. A method for predicting gypsy moth defoliation from egg mass counts. *Northern Journal of Applied Forestry* 2: 78-79.

Objective: To develop a method of predicting defoliation from egg mass counts.

Abstract: The gypsy moth was introduced into Medford, Massachusetts in 1869, and is now a major defoliator of hardwoods throughout the northeastern USA and Canada. Defoliation causes reduced growth, decreased vigor and extensive tree mortality. A model is provided which correctly predicted defoliation levels as greater or less than 60% for 92% of the 300 plots analyzed.

Sampling Procedure: Establish two 100-m^2 plots throughout the stand. No recommendations as to the spacing of plots is provided. Within each plot, locate and record the number of newly deposited egg masses on trees, rock, stumps, etc. Multiply the median of the two plots by 40 to estimate the number of egg masses per acre. The equation for predicting defoliation based on egg mass counts is:

$$\text{Percent defoliation} = 100[1.0 + 7.24\ (0.368)^{0.00173X}]^{-1}$$

where, *X* represents the number of egg masses per acre. Values are shown in Fig. 1.

Figure:

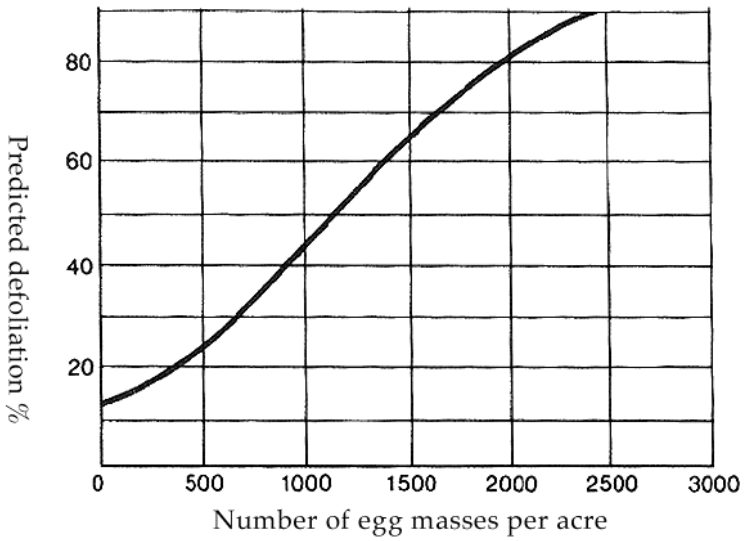

Fig. 1. A graph for predicting gypsy moth defoliation.