ANALYSIS OF DEVELOPMENT RATES OF *SITOPHILUS ORYZAE* (L.) IN FIVE DIFFERENT KINDS OF*TRITICUM*.

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A "route" to the analysis and comparisons of experimental data on the development of *Sitophilus oryzae* (L.) at a fixed temperature and relative humidity, for five different kinds of cereal (*Triticum aestivum*, *T. dicoccum*, *T. durum*, *T. monoccoccum*, *T. spelta*) is proposed.

As far as the cumulative curves of the development rate are concerned, we suggest the use of a simple exponential model which is well known in chemical, physical and biological sciences. The model take into account the evolution of a given system from a stable state (e.g. in our case: no insect at all) to another stable state (e.g.: all the insect have reached the adult age). The main issue in our approach lies in the fact that no fitting parameters are required. The only parameters required can be measured in a straight-forward way from the experimental data.

Even if the model used is the same for all experimental sets, different behaviours in dependence of the food supplied appear which corresponds to different survival strategies in dependence of the food available. In all the examined cases a statistical reliability of over 95% of simulated data has been reached.

The correspondence between the efficiency of developmental rate and the food choices has been enterprised and the preliminary results show in a significant way that a relationship between the genetic structure of the cereals and the development rate curve must be accounted for.