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EFFECT OF THE SEVERITY OF INFECTION BY *Uromyces appendiculatus* (PERS.) UNG. ON THE PRODUCTIVITY OF BEANS *(Phaseolus vulgaris L.)*: DETERMINATION OF TOLERANCE

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The effect of the amount of rust on the yield of eight bean lines was determined in a split-plot randomized block experiment with fou replications. In one sub-plot the rust developed normally, in the other a systematic control was made with application of oxicarboxin to get disease-free plants. Two evaluations of the severity of the disease (at flowering and 15 days later), were made using the intensity of infection criterium (0-100%). The yield of each sub-plot was determined and also the respective components. There was a significant difference between the bean lines, as far as intensity of infection (0.9% to 68.12%). The effect on productivity of bean lines was determined either protected or unprotected against rust, and a significant variability between lines was noted, -0.14% to -51.09%. Linear regression analysis between intensity of infection and effect of rust productivity showed a significant correlation in the t test, at 5% probability level, with $R^2 = 0.6041$; thus for every 10% increase in intensity of the infection there was a 7.10% reduction in bean plant productivity. However, amount of disease and amount of damage cannot be considered as synonymous; when the damage is not a direct function of the disease, it is expressed as tolerance. As some lines showed identical intensity of infection but different effect on productivity, or identical effect on productivity but different intensity of infection, it was evident that the lines studied differed in regard to tolerance level; Carioca/C-224 is more tolerant to *U. appendiculatus* than Rosinha G-2/C-40, Roxo/C-820 and Rosinha/C-110. Among productivity components, the effect of the disease on the number of pods per plant showed a higher correlation with the effect of yield ($R^2 = 0.6367$) which suggests that this component should be determined to estimate the effect of the disease on productivity and to evaluate tolerance to *U. appendiculatus* as well.