

for quality using different indicators. The quality of the seeds of the cultivars Carioca and Rosinha G2 with yeast spot in relation to those without spots had been reduced respectively, by 14.7 and 28.4% in weight of 100 seeds; 37.8 and 51.1% at germination; 36.4 and 58.7% at the first counting (4 days) of the germination test; 50.8 and 84.7% in the rapid aging test, taking into account only the normally germinated plantules; 35.4 and 66.0% in the rapid aging test considering both normal and abnormal plantules; 34.1 and 59.6% at emergence; 32.8 and 58.3% emergence speed; 26.2 and 27.5% in hypocotyl length; 27.8 and 41.1% plantule dry weight; 39.8 and 70.8% survival at 14 days; and 43.5 and 70.4 percentage of seeds with micro-organisms, using the agar method. Among the fungi detected, Alternaria was significantly more frequent in seeds with yeast spot; on the other hand, with this test it was possible to recover about 20% of N. coryli in seeds with yeast spot. Therefore, the adoption of control measures in the field aimed at diminishing the occurrence of the disease, or the selection of seeds to eliminate those with yeast spot is justified with the objective of improving the quality of a lot.

XI. EVALUATION OF DAMAGES CAUSED BY THE BEAN GOLDEN MOSAIC VIRUS

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The bean golden mosaic virus causes great damage both in production and productivity of this crop. Though easy to observe the losses caused by this disease, its quantitative evaluation is difficult in field conditions because of the inability to obtain disease free plots for comparison with diseased ones. We therefore decided to use a bean multiplication field of Carioca 6C2, which is a line selected within the Carioca cultivar, at the Experimental Station of Piracicaba, IAC. Planting was done in March 1978 with spacings of 0,70m. between the rows; 15 seeds were used per linear metre. During the vegetative cycle of the crop a high incidence of bean golden mosaic virus was observed, though it was not uniformly distributed because healthy plants could be seen growing side by side with the attacked ones. Four rows of 50 metres each were chosen randomly during their inflorescent stage and plants that were apparently healthy or those that showed typical symptoms of the disease were marked. Plants chosen in this exercise were those with competitive abilities; this was done to eliminate any chances of picking plants that had suffered some deficiencies during their germination cycle. Such plants were later harvested and their production measured by weighing total yield of each and then 100 seeds of each; also their seed characteristics were observed.

The results obtained using the averages of the 4 lines showed that productivity was 1514 kg/ha for healthy plants and only 544 kg/ha for the diseased ones, thus showing a reduction of 64,0%. One hundred seeds from healthy plants weighed 16.1 g while the same quantity from diseased ones weighed 11.0 g, a decline of 31.8% in weight. Seeds from diseased plants suffered an accentuated reduction in their quality showing discoloration and deformation which reduces their commercial value.