
COMPARISON OF FUNGICIDES FOR THE *in vitro* CONTROL
OF *Sclerotium rolfsii* SACC.

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In vitro efficiency of six fungicides to control *Sclerotium rolfsii*, a strong and polyphagous pathogen, which under normal conditions may cause economically important diseases in several crops, particularly beans (*Phaseolus vulgaris* L.), was studied. A bean plant isolate was used to determine the ED50 (necessary fungicide concentration to inhibit mycelium growth by 50%) for each product, to control actively growing mycelium and sclerotia. Periodic determinations of the fungi development were made in potato-dextrose-agar (PDA) without fungicide (control), and with 1, 10 and 100 ppm of each fungicide, under laboratory conditions. ED50 was determined using the percentage of mycelium growth inhibition (PIC) and the percentage of reduction in growth rate (PRTC).

Carboxin (DCMO) was classified as highly efficient (ED50 \leq 1ppm), its effect being noted in the active growth and on the resistance structures of the pathogen as well; thiram (TMTD, captan, PCNB, and lesan + PCNB were classified as moderately efficient (ED50: 1-10 ppm) and benomyl as poor efficient to inefficient (ED50: 10-50 and ED50>50 ppm, respectively).

REACTION TO "PROBLEM X" OF SOME BRASILIAN VARIETIES
OF BEANS (*Phaseolus vulgaris* L.)

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"Problem X" of beans, described in 1953 at Valle del Cauca, Colombia, has become significant in recent years in experimental fields of CIAT. Typical symptoms are general colour fading of the plant, malformation and retiform leaves, decrease in height, longer vegetative period, and usually no pod formation. Although several experiments have been conducted, the cause of this disturbance has not yet been determined. It is known that its origin is in the soil which, if treated with methyl bromide, reduces the seriousness of the problem.

There is varietal variability in sensitivity to "Problem X": of about 800 varieties tested at CIAT, 205 were considered resistant. As there have been recent reports of occurrence of the same symptoms in other areas, the

objective of the present work was to evaluate the reaction of some Brazilian varieties to "Problem X", although there are no reports of its occurrence in Brasil.

Soil was collected at the places where the problem is most constant. After homogenisation and sieving, one portion was sterilized by autoclaving (120°C, 30 min/day, 3 consecutive days) to be used as control. The soil was distributed in pots and each variety was sown in 6 pots with non-sterilized soil and 3 pots with sterilized soil. 50 varieties were assessed (39 Brazilian and 11 materials previously evaluated and included as controls) 20 and 30 days after seedling emergence, in accordance with a scale of 1 (no symptoms) to 5 (serious malformation of leaves and plants).

The plants' reaction was uniform among plants of the same variety, no symptoms having been observed in plants grown in sterilized soil. The reaction to "Problem X" among Brazilian varieties varied widely (average rate 1.0 to 5.0). The Enxofre variety was the most resistant (no symptoms). The most common cultivars in Brasil showed the following reactions, evaluated 20 and 30 days respectively: Goiano Precoce, 2 and 3; Rosinha G-2, 3 and 3; Roxo, 3 and 3; Rico 23, 4 and 3; Bico de Ouro, 3 and 4; Carioca, 4 and 5; Aete, 5 and 5.

Eremothecium cymbalariae BORZI, A NEW CAUSAL AGENT OF
YEAST SPOT IN BEAN (*Phaseolus vulgaris* L.) SEEDS

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The occurrence of phytopathogenic yeasts has been reported on fruits and/or seeds of a large number of cultivated plants. These yeasts are presently considered as part of the Nematosporaceae family, and belong to the Nematospora, Ashbya and Eremothecium genera. Using bean seeds of cultivars Rosinha G2 and Carioca from Tiete, Sao Paulo, with typical yeast spot symptoms, the occurrence of three different cultural types was detected, associated with the disease. Pure isolates were identified and classified according to Batra (1973) as Nematospora coryli Peglion, Ashbya gossypii (Ashby & Nowell) Guilliermond and Eremothecium cymbalariae Borzi. The first two have already been described as causal agents of yeast spot in bean seeds, but there is no reference in the literature with regard to the third one. E. cymbalariae, referred to as a rare pathogen, was recovered at low frequency and sometimes associated with N. coryli; it differs from other species in cultural and morphological aspects. Artificial inoculation, using an entomological needle, showed that E. cymbalariae is an organism with pathogenicity similar to N. coryli and A. gossypii. Pure cultures of the pathogen were obtained by reisolation.