

APPOST 14

Production characteristics of four Oriental tobacco lines resistant to black shank (*Phytophthora parasitica* var. *nicotianae*)

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The aim of the investigation was to evaluate morphological, production and qualitative traits of four newly created fertile inbred lines and their resistance to black shank disease (*Phytophthora parasitica* var. *nicotianae*), compared to the susceptible standard variety YV 125/3 (Ø).

The experimental lines were obtained by intraspecific hybridisation. The breeding process started with crossing introduced Oriental tobacco varieties with stable domestic lines resistant to black shank (AA) which were used as maternal parents and susceptible lines and varieties (aa), used as paternal parents. Selection of hybrid progeny was made using the pedigree method. The experimental lines were stable in plant height and in number, shape and size of the leaves.

According to the results of field experiments, the newly created resistant lines had a higher leaf number per plant (45-53 leaves) as compared to the variety YV 125/3 Ø (37 leaves). They also achieved higher yields (33.66% - 68.80%), higher purchase price (14.3% - 27.7%) and greater crop value / Euros/ha (41.01% to 81.29%). Black shank is an economically important disease of Oriental tobacco throughout the world. In conditions favourable for its occurrence it can also cause severe damage in some microregions with mass production of Yaka tobacco. The tobacco varieties and lines were investigated for their resistance to the causal agent of *Phytophthora parasitica* var. *nicotianae* during 2010, with artificial inoculation in glasshouse conditions at the Tobacco Institute - Prilep.

Of the four lines investigated, three were evaluated as highly resistant to black shank and they can be included not only in commercial production but also as sources of resistance in breeding programmes.