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**Selection for multiple disease resistance in bush snap bean lines developed in Kenya**

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**Abstract**

Production of snap beans (French beans) in Kenya is severely constrained by diseases. Use of fungicides increases cost of production and reduces profitability of snap bean in domestic and export markets. Varieties with multiple disease resistance can reduce costs associated with use of chemicals especially for smallholder farmers. The objective of the study was to select for combined resistance to rust, anthracnose and angular leafspot and market preferred pod quality characteristics and pod yield from locally developed advanced snap bean lines. About 300 F<sub>5</sub> lines selected from 31 populations for combined resistance to rust, angular leaf spot and anthracnose were evaluated at Mwea and Embu during the 2013 long rain and short rain seasons. Diseases were scored on 1 to 9 scales, plots were harvested three days a week and pods graded as extra-fine, fine and bobby using standard commercial criteria. There were no significant differences in anthracnose and rust at both sites, though significant differences were recorded at Mwea. Four new lines with multiple disease resistance had better pod yield and pod quality compared with existing commercial varieties at both locations were selected. None of the check varieties exhibited multiple disease resistance. These results indicate the potential of developing new high yielding snap varieties with multiple disease resistance and good pod quality.

*Key words:* French bean, pod yield, pod quality, smallholder farmer