

## EVALUATION OF RESISTANCE OF SNAP BEAN VARIETIES TO BEAN FLY

Misheck, D. K.<sup>1\*</sup>, Nderitu, J.H.<sup>1</sup>, Kasina, J.M.<sup>2</sup>, Ndiema, G. C.1 ,  
Olubayo, F.<sup>1</sup>,

<sup>1</sup> Department of Plant Science and Crop Protection, University of Nairobi. P.O. Box 29053-00625, Kangemi, Nairobi, Kenya. Tel 020-2055129

<sup>2</sup> Entomology & Biotechnology, Kenya Agricultural Research Institute, NARL-Kabete, P.O. Box 14733-00800 Nairobi, Kenya.

\* Corresponding author dankaburu@gmail.com

### Abstract (C2050)

Snap bean (*Phaseolus vulgaris*), an important export crop for Kenya, experiences high pest infestations leading farmers to use highly persistent pesticides resulting in produce rejection due to high pesticide residues. A study was carried out to evaluate varietal resistance of seven commercial snap bean varieties to bean fly. The studies were conducted over three cropping cycles at Mwea from Feb 2010 to Jan 2011. Each of the seven snap bean varieties (Amy, Alexandra, Bravo, Serengeti, Paulista, Tana and Mara) was grown with and without Confidor (imidacloprid (N-[1-[(6-Chloro-3-pyridyl) methyl]-4,5-dihydroimidazol-2-yl]nitramide). The chemical was sprayed on the soil surface three days after emergence and on the foliage ten days later. Data was collected weekly throughout the growing period on plant stand, number of bean fly ovipuncture marks, number of bean fly maggots and pupae and pod yield. The varieties were significantly different in the number of plants (P=0.001), marketable (P=0.001) and total pod yields (P=0.001). Alexandra and Serengeti had higher plant numbers and yields than the other varieties. Treatment of varieties with Confidor increased pod yield in all the varieties by between 50 and 490% but only some degree of resistance was noticed in Alexandra and Serengeti against bean fly which was enhanced by treatment with Confidor. Therefore, for effective protection against bean fly, Confidor, which is a relatively safe pesticide, should be integrated with resistant varieties in snap bean production system. These two bean fly-resistant varieties could be recommended to snap bean farmers in areas like Mwea which experience high infestation of snap bean pests.

**Key words:** imidacloprid, *Ophiomyia* spp., *Phaseolus vulgaris*, varietal resistance,