THE USE OF COMMON BEAN (*PHASEOLUS VULGARIS*) TRADITIONAL VARIETIES AND THEIR MIXTURES WITH COMMERCIAL VARIETIES TO MANAGE BEAN FLY (*OPHIOMYIA SPP.*) INFESTATIONS IN UGANDA

[1]Ssekandi, W., [2]Mulumba, J.W., [3]Colangelo, P., [4]Nankya, R., [5]Fadda, C., [6]Karungi, J., [1]Otim, M., [7]De Santis, P., [7]Jarvis, D.I., 2016. Journal of Pest Science, 89, PP45-57

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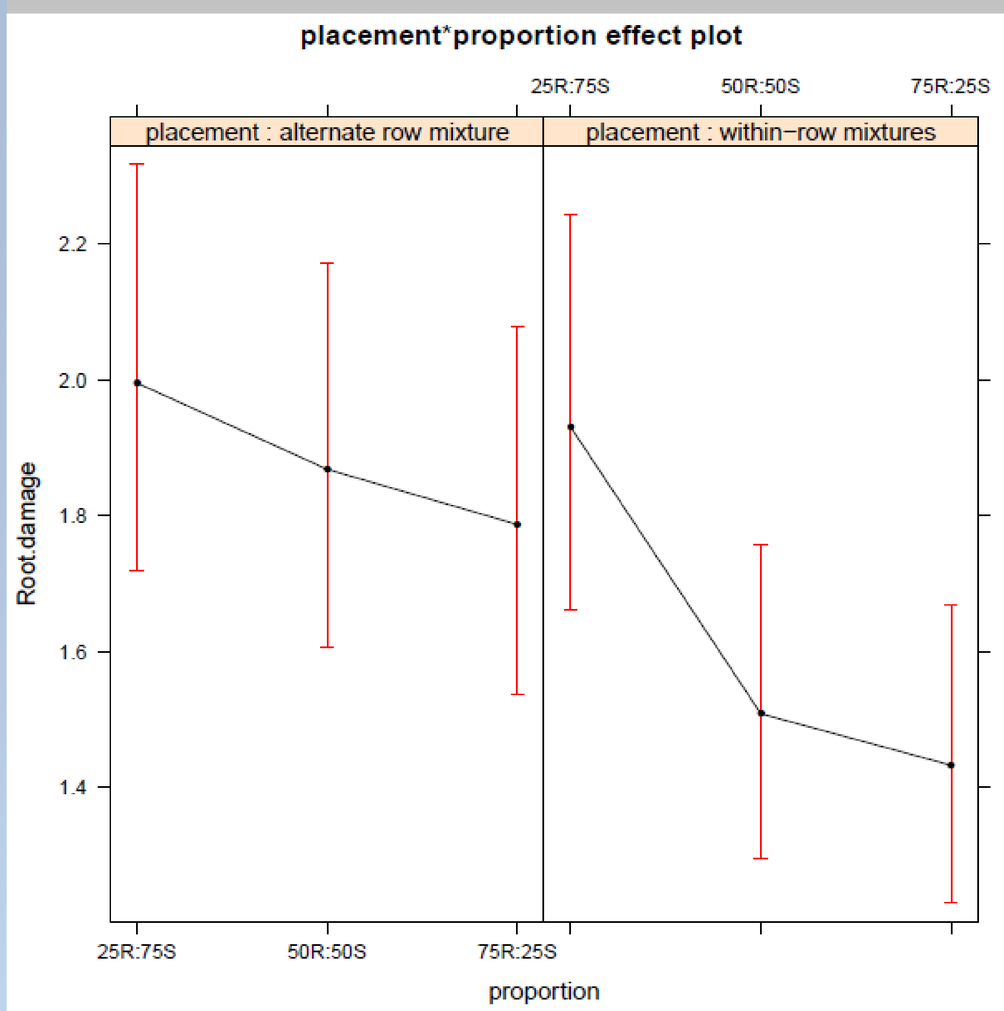
The bean fly (*Ophiomyia* spp.) is considered the most economically damaging field insect pest of common beans in Uganda. Data on bean fly incidence, severity and root damage from bean stem maggot were collected. Generalized Linear Mixed Models (GLMM) revealed significant resistance to bean fly in the Ugandan common bean traditional varieties grown in farmers' fields. A popular resistant traditional variety and a popular susceptible commercial variety were selected from the 48 varieties and evaluated in pure and mixed stands.

The proportion of resistant varieties in a mixture and the arrangement type significantly decreased bean fly damage compared to pure stands, with the highest decrease in damage registered in the complete random mixture with at least 50% of resistant variety. Highest reduction in root damage was found in random mixtures with at least 50% of the resistant variety. Bean fly damage can be managed by growing mixtures of varieties with different resistance levels.



Dissecting the mixture: %Resistance: % Susceptible; random vs rows

The severity of bean fly damage on different varieties of common bean