INTROGRESSION OF LATE LEAF SPOT RESISTANT GENES IN VALENCIA PEANUT

W.WAMBI[1], P. TUKAMUHABWA[1], N. PUPPALA[2], D. K. OKELLO[3], M. DEOM[4] and B. BRAVO-URETA[5]
[1]Department of Agricultural Production, School of Agricultural Sciences, Makerere University,
[2]New Mexico State University, Agricultural Science Center a Clovis, [3]National Semi Arid Resources Research Institute , Serere, Uganda, [4]University of Georgia, Department of Plant Pathology, Athens, GA – 30602,
[5]University of Connecticut, Department of Agricultural and Resource Economics, Storrs, CT 06269-1182

General objective

•To facilitate on the introgression of late leaf spot (*Phaeoisariopsis personata*) resistance genes in Valencia peanut varieties

Specific objectives

- To determine the gene effects and narrow sense heritability (h) of resistance to peanut leaf spot
- To determine the combining ability of late leaf spot resistance for the male parental lines
- To compare the pedigree and backcross procedure of transferring late leaf spot resistances

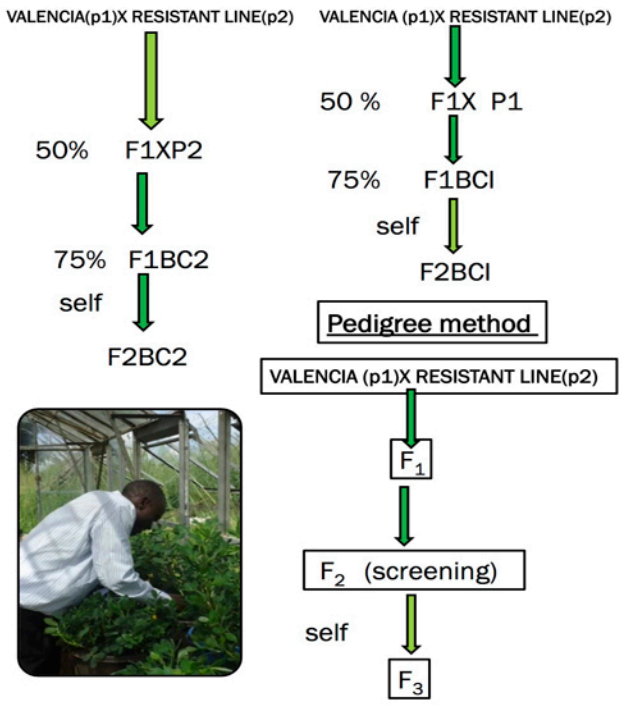
Expected output

- Information on gene effects, heritability will be documented which will be used by breeders in designing more efficient and effective breeding programs aimed at developing cultivars with improved resistance to late leaf spot.
- High levels of resistance to late leaf spot will be introgressed into Valencia varieties.
- If no maternal influence is seen it implies that either the resistant or susceptible lines can be used as female.

Materials and methods

- The experiment will be conducted at Serere-NaSARRI. Genetic analysis will be performed on the six basic generations to estimate gene effects and heritability following Mather and Jinks (1982) method.
- General and Specific combing ability effects will be calculated using the method described by Dabholkar (2001).
- Segregating populations; F2, F3 and BC1F2 will be generated following the pedigree and backcross procedure in glass house and evaluated in the field.
- The plants will be screened along with controls at a spacing of 45x15 cm in the experimental field at NaSARRI in a CRBD with three replicates under natural conditions.
- Disease severity will be assessed using 1 to 9 scale adapted from Subramanyam et al., (1995).
- Reciprocal crosses will be made to determine maternal effects on inheritance of the trait.

Backcross Crossing Scheme



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