

## **Assessment of Yield-related traits in a Population of Recombinant Inbred Lines of Peanut (*Arachis hypogaea* L.) developed for High Oleic Content**

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Peanut (*Arachis hypogaea* L.) is the most important cash crop in Senegal. However, still now all released varieties are low oleic content and that is hindering peanut industry development in Senegal. In order to provide farmers with high oleic peanut varieties we have developed an F<sub>5</sub> population derived from a cross between Turquie and Schubert. Turquie is a Virginia-type peanut variety with big seed size while Schubert is a Spanish-type bunch variety with earliness and high oleic content. We evaluated 188 F<sub>5</sub> families of that population along with 10 varieties as checks among which the parental lines for yield related traits at Nioro Research Station (Senegal) using an augmented design. After harvest, we have examined the family mean of pod weight (PW) per plant, total kernel weight (TKW) per plant, sound kernel weight (SMK) per plant and 100 seed weight (HSW).

Analysis of variance revealed significant effect of the genotypes for all traits except pod weight. In addition, significant differences among families were observed, indicating large genetic and phenotypic variability in that population. Among tested families, eight have TKW significantly higher than that of the parental line Schubert, and five families have HSW higher than 65 g. These are promising lines that would be released as high oleic peanut varieties with better seed quality traits.