Developing Risk Management Tools to Help Farmers Minimize Risk in Peanut Production in Two Agro-ecologies in Ghana

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Profitable peanut cultivation in Ghana is beset with a number of abiotic (e.g., drought, fertilization etc.) and biotic (e.g., pests, diseases etc.) constraints that must be managed effectively to optimize yields. These constraints differ with agro-ecologies and pose significant risk to yields as well as limit financial returns to farmers. Knowledge of the interactions among key production practices such as pest management, crop rotation sequence, varietal selection, tillage systems and chemical inputs is required to mitigate these risks and to inform the quality of advice offered by Agricultural Extension Agents (AEAs) and similar advisory agencies to peanut farmers. A comprehensive, excel-based risk management tool was developed to help farmers and their advisors implement practices that minimize risk to yield while providing estimates of production costs was developed for peanut production in North Carolina (USA). This tool allowed for the development of similar ones for other countries, with Malawi being the first country in Africa to have adopted it for peanut farmers. This poster presents the first version of a similar risk tool developed to aid AEAs and farmers to make informed decisions on the right combinations of production practices that will minimize risk and increase yields in Ghana. Three risk tools were developed; one for the interior savannah zone of northern Ghana which has a unimodal rainfall pattern, and two for the forest-transition zone of southern Ghana which is characterized by a bi-modal rainfall pattern. The important differences in choices of varieties, sowing distances, fertilization and pest management between savannah and the forest-transition regions as well as the impact of their interactions on peanut yields and aflatoxin levels will be presented. Also, the differences in practices between the two different seasons (i.e., major and minor) in the Forest-transition will be highlighted. Overall, this risk management tool developed has benefits for extension service providers (government and private), breeding, agronomy, and plant protection programs as well as for teaching in higher institutions.