IDT8-053 | Research and development partnerships for a large-scale diffusion of technologies for sorghum and millet systems in Mali

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The objective of this work is to improve production systems based on sorghum and pearl millet in the Mopti and Sikasso regions of Mali, by strengthening research and development partnerships for large-scale utilization of proven technologies with potential for improving nutrition, benefiting women and children, and enhancing the sustainability of smallholder agriculture. At the farm level, the focus has been to improve production by increasing access to selected new technologies, and enhancing awareness and 'know-how' for the use of existing technologies to enhance sorghum and millet production. In the Mopti and Sikasso regions of Mali, the major technologies targeted for dissemination include: i) the use of seed treatment such as Apron Star 42WS, ii) seed of improved varieties of pearl millet, sorghum (both hybrid and open pollinated varieties), groundnut and cowpea adapted to the Sahelian environmental conditions, iii) integrated *Striga* and soil-fertility management practices; and iv) biological control of the millet head-miner. Seed treatment of pearl millet with Apron Star significantly reduced the incidence and severity of diseases. Grain yield was 20% higher when seed was treated. Further, the practice increases yield by 39% relative to farmers' current practice.

IDT8-054 | Sowing dates affect pumpkin fruit yield and quality

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Climate change is a major challenge to the world today, especially the African continent, with significant threat to food security, human health and economic stability. In Sub-Saharan Africa, where rainfed agriculture is still the primary source of food and income, two-thirds of the working population still make their living from agriculture. Pumpkin (*Cucurbita pepo* Linn.) can be a good crop to meet the challenge of climate change. The fruit of *C. pepo* has a shelf life of three to six months (an index of its high antioxidant concentration), and the crop has been found to be drought-resistant. There are a number of agronomic practices that can be adjusted or manipulated in the quest for finding a remedy for the adverse effects of climate change, especially drought associated with changes in rainfall pattern. Hence, in 2007 and 2008, the effect of sowing dates on the yield and quality of pumpkin fruit was evaluated at the Teaching and Research Farm, Obafemi Awolowo University, Osun-State, Nigeria. In the study were four sowing dates (01 April, 15 April, 01 May, and 15 May). As the sowing dates were delayed, pumpkin fruit yield and nutrient contents diminished significantly (P=0.05). Adaptation to climate change involves deliberate adjustments in cropping systems. Time of sowing could be adjusted and or a range of sowing dates could be used so that food insecurity mediated by rainfall shortage could be mitigated.