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Kenyan Farmer Takes Captures Market for Healthy Vegetable Seedlings

After graduation from Jomo Kenyatta University, Eston Mbuba got a job in Kenya’s crowded capital of Nairobi. He soon found his housing, food, transportation, and other living expenses too high, and his income too, with little hope this would change anytime soon. His only option, it seemed, was to return to the land he had inherited from his father. Although the land was suitable for farming, and had irrigation water available, Eston had little or no training in agriculture. His training was in physics and mathematics. Nevertheless, he started organizing his farm and sought out a market niche where he could turn his math skills into business skills.

When Dr. Jesca Mbaka and colleagues from the Kenya Agricultural and Livestock Research Organization (KALRO) started doing work in his area, they needed farmers to be leaders. The other farmers in the area pointed to Eston – he was young, energetic, and had seemed to have a good mind for business. Dr. Mbaka convinced him to attend a workshop on



Eston Mbuba shows his concern about the health of these cabbage seedlings. He is setting high quality standards and farmers are responding.

Seedling Health, in March, 2017, at Sokoine Univeristy in Tanzania. This initiated Eston’s relationship with the East Africa Vegetable Crop Integrated Pest Management Innovation Lab (IPM-IL) project, sponsored by the U.S. Agency for International Development (USAID) and directed by scientists at KALRO and Ohio State University (OSU).

Like most Kenyan farmers, Eston had thought that seedlings were all the same: if they looked bad when transplanted they would eventually get better in the field as long as you applied enough pesticide. At the workshop he learned how everything from seed to soil to watering practices at the seedling stage could affect disease and insect susceptibility later on. After attending the IPM-IL workshop, Eston decided to specialize in the production of healthy seedlings. He has adopted several IPM technologies that he learned from KALRO and OSU scientists: he uses solarization to sterilize soil that is used in combination with potting media containing peat moss and cocoa-peat. He uses netting to exclude pests like *Tuta absoluta* and whiteflies from tomato seedlings. He plants high quality seeds of brassica varieties that are resistant to black-rot, and tomato varieties resistant to bacterial

wilt. He discards any seedlings that do not meet his high quality standards so that no weak seedlings are transplanted to the field. By using these fundamental IPM practices, Eston's customers have been able to cut back greatly on synthetic pesticide use, and some farmers have been able to totally eliminate the use of synthetic pesticides. This saves them money, which is why they come back to Eston for seedlings for the next crop cycle.

Eston is putting his training in math to work, calculating his return on investment in IPM technologies. And it's paying off: he now markets seedlings directly to buyers and his orders –and sales - continue to increase. "The market for healthy seedlings is huge," he says, "and every farmer can benefit if they start with only the best quality plants."

With the returns on his investment in IPM methods, Eston has been able to diversify his farm, construct a controlled grazing area, and build a new plant nursery structure. He has made improvements to his house – installing new windows and a cement floor. Word has gotten around quickly among local farmers that Eston's seedlings, produced using IPM methods, produce healthier crops. His earnings have also helped Easton to finance a vehicle to transport his seedlings to buyers and his farm produce to the local market. There's a certain prestige, he says, in delivering his goods in a vehicle he drives himself rather than hiring someone else who might not take as good care as he does. And when he sees farmers coming back to purchase more of his seedlings, he feels a sense of satisfaction that he has done a good job.



Eston Mbuba shows off his tomato crop where healthy seedlings and IPM methods have allowed him to use no pesticides. He will market these through the Nthambo farmer group.