

Title:

Did Transgenic Cotton Reform Increase Cotton Production in Burkina Faso?: Quasi-Experimental Evidence from Sub-Saharan Cotton Countries of Benin, Burkina Faso, Chad, Côte d'Ivoire, and Mali over the Years 1990 - 2017

Abstract: Sub-Saharan African farmers hear that there is a new type of cotton that can resist some insects and abate the need to buy insecticides. While some argue in favor of the cost savings, others speculate that transgenic cotton will keep them at the mercy of powerful foreign companies and untested technologies. I collect data from multiple French and English sources like International Cotton Advisory Committee (ICAC), Food and Agriculture Organization Corporate Statistical Database (FAOSTAT), United Nations International Trade Statistics Database (UN COMTRADE), Bukinabé annuaires statistiques agricole, cotton company report from CotonChad, several sub-Saharan Africa cotton sector World Bank documents, and in some cases, data I calculated for the countries Benin Burkina Faso, Côte d'Ivoire, Chad, Mali, and Senegal. Using this data, I estimate the impact of the transgenic cotton, particularly Bt cotton, on cotton production in Burkina Faso by exploiting the synthetic control method illustrated by Abadie, Diamond, and Hainmueller (2010). I find that over the post-treatment years of 2005 to 2014, cotton production in Burkina Faso increased in the range of 13% to 28%. The standardized probability that this positive effect of Bt cotton on Burkina Faso's cotton production was observed by chance is 0 and thus the treatment effect observed over these years are statistically significant at 1%. This suggests some initial success for transgenic cotton in Burkina Faso.

Research Interests: Econometric methods for program evaluation in economic development. Labor Economics, Economic Development, Agricultural Economics, Causal Analysis and Program Evaluation, and Education of Economics.

URL for personal Website: www.miracleroseppar.com

Iowa State Email: lwyerme@iastate.edu

Co-Major Professors: Prof. Elizabeth Hoffman and Prof. Alejandro Plastina